

## Core 2 Self-Assessed Entrance Exam Solution

1. Which of the following is a valid reason to allocate the cost of a support department, such as engineering services, to the products manufactured in an operating department?

\*a. To determine the net margin of the products.

@ Answer a) is correct. Net margins should be determined based on a product's full cost, including the allocation of indirect costs, so this is a valid reason for the allocation.

b. To reprimand the manager of a poorly performing operating department.

@ Answer b) is incorrect. Through the process of indirect cost allocation, managers of operating departments receive information on the share of the indirect resources that their department consumes. Such information can influence their behaviour, resulting in a reduction in the consumption of that resource; however, cost allocations should never be applied as punitive measures. Answer a) is correct. Net margins should be determined based on a product's full cost, including the allocation of indirect costs, so this is a valid reason for the allocation.

c. To earn additional profits by inflating the cost of products manufactured for a potential client.

@ Answer c) is incorrect. In establishing the full cost of a product, all costs, including indirect costs, must be considered; however, the aim is not to inflate costs beyond what is actually incurred in order to charge higher prices. Answer a) is correct. Net margins should be determined based on a product's full cost, including the allocation of indirect costs, so this is a valid reason for the allocation.

d. Allocating support costs allows management to make the decision to abandon one of the products manufactured in the operating department.

@ Answer d) is incorrect. Allocated costs should not be used in decision-making. Often, the allocation will include costs that would be unaffected whether a product was abandoned or not. Answer a) is correct. Net margins should be determined based on a product's full cost, including the allocation of indirect costs, so this is a valid reason for the allocation.

2. In which of the following circumstances is the zero-based budgeting approach most useful?

a. In organizations involved in high-growth industries, where strategic decisions need to be made quickly

@ Answer a) is incorrect. Organizations in high-growth industries where decisions need to be made quickly are not likely to adopt zero-based budgeting, because the detailed process underlying this approach to budgeting is very time consuming. Answer b) is correct. Organizations that have access to a limited amount of resources and need to justify their expenditures in detail are most likely to adopt a zero-based budgeting approach.

\*b. In governmental and non-profit sectors, where every expenditure must be justified  
@ Answer b) is correct. Organizations that have access to a limited amount of resources and need to justify their expenditures in detail are most likely to adopt a zero-based budgeting approach.

c. In high-tech factories, where zero-defect policies are implemented

@ Answer c) is incorrect. The zero-based budgeting approach constitutes a very detailed approach to budgeting. It bears no relation to organizations that implement zero-defect policies. Answer b) is correct. Organizations that have access to a limited amount of resources and need to justify their expenditures in detail are most likely to adopt a zero-based budgeting approach.

d. In organizations that favour management flexibility and focus only on the big picture

@ Answer d) is incorrect. The zero-based budgeting approach constitutes a very detailed approach to budgeting and control. Therefore, it cannot be said that organizations that have adopted zero-based budgeting focus only on the big picture. Answer b) is correct. Organizations that have access to a limited amount of resources and need to justify their expenditures in detail are most likely to adopt a zero-based budgeting approach.

3. Orange Ltd. manufactures juice with two different ingredients: 100% of ingredient A is added at the beginning of the production process; 100% of Ingredient B is added when the juice is 60% complete. Conversion costs are added uniformly throughout the entire production process.

Quality testing is conducted at the 60% conversion point, prior to adding ingredient B. Rejected units at quality testing are accounted for as spoilage, and spoilage is included in equivalent units of output. Production data for May, Year 5, are as follows:

WIP inventory, May 1 (25% converted)	40,250 units
Started in production	85,000 units
Spoiled	300 units
Completed production	90,000 units
WIP inventory, May 31 (80% converted)	34,950 units

For May, direct material costs incurred and in beginning WIP inventory totalled \$220,000 for ingredient A and \$350,000 for ingredient B. Using the weighted average method, what is the cost per equivalent unit (EU) for ingredient A and ingredient B?

a. \$2.59 and \$2.80

@ Answer a) is incorrect. It excludes beginning WIP in the calculation for A. Answer b) is correct. EU of work done in May:

	Units	A	B
Beginning WIP (25% converted)	40,250	40,250	40,250
Units started and completed <sup>†</sup>	49,750	49,750	49,750
Spoiled units	300	300	0
Ending WIP (80% converted)	34,950	34,950	34,950
Total units accounted for	125,250	125,250	124,950

<sup>†</sup> Units started and completed are calculated by completed production of 90,000 less WIP inventory, May 1 of 40,250 = 49,750.

Cost per EU of A:  $\$220,000 / 125,250 = \$1.76$

Cost per EU of B:  $\$350,000 / 124,950 = \$2.80$

\*b. \$1.76 and \$2.80

@ Answer b) is correct. EU of work done in May:

	<b>Units</b>	<b>A</b>	<b>B</b>
Beginning WIP (25% converted)	40,250	40,250	40,250
Units started and completed <sup>†</sup>	49,750	49,750	49,750
Spoiled units	300	300	0
Ending WIP (80% converted)	<u>34,950</u>	<u>34,950</u>	<u>34,950</u>
Total units accounted for	<u>125,250</u>	<u>125,250</u>	<u>124,950</u>

<sup>†</sup> Units started and completed are calculated by completed production of 90,000 less WIP inventory, May 1 of 40,250 = 49,750.

Cost per EU of A:  $\$220,000 / 125,250 = \$1.76$

Cost per EU of B:  $\$350,000 / 124,950 = \$2.80$

c. \$2.59 and \$3.89

@ Answer c) is incorrect. It excludes beginning WIP in the calculation for A and ignores ending WIP for B:

	<b>B</b>
Beginning WIP (25% converted)	40,250
Units started and completed <sup>†</sup>	49,750
Spoiled units	0
Ending WIP (80% converted)	<u>0</u>
Total units accounted for	<u>90,000</u>

<sup>†</sup> Units started and completed are calculated by completed production of 90,000 less WIP inventory, May 1 of 40,250 = 49,750.

Cost per EU of B:  $\$350,000 / 90,000 = \$3.89$

Answer b) is correct. EU of work done in May:

	<b>Units</b>	<b>A</b>	<b>B</b>
Beginning WIP (25% converted)	40,250	40,250	40,250
Units started and completed <sup>†</sup>	49,750	49,750	49,750
Spoiled units	300	300	0
Ending WIP (80% converted)	<u>34,950</u>	<u>34,950</u>	<u>34,950</u>
Total units accounted for	<u>125,250</u>	<u>125,250</u>	<u>124,950</u>

<sup>†</sup> Units started and completed are calculated by completed production of 90,000 less WIP inventory, May 1 of 40,250 = 49,750.

Cost per EU of A:  $\$220,000 / 125,250 = \$1.76$   
 Cost per EU of B:  $\$350,000 / 124,950 = \$2.80$

d. \$2.44 and \$3.89

@ Answer d) is incorrect. It uses units completed as the denominator:

Cost per EU of A:  $\$220,000 / 90,000 = \$2.44$

Cost per EU of B:  $\$350,000 / 90,000 = \$3.89$

Answer b) is correct. EU of work done in May:

	<b>Units</b>	<b>A</b>	<b>B</b>
Beginning WIP (25% converted)	40,250	40,250	40,250
Units started and completed <sup>†</sup>	49,750	49,750	49,750
Spoiled units	300	300	0
Ending WIP (80% converted)	<u>34,950</u>	<u>34,950</u>	<u>34,950</u>
Total units accounted for	<u>125,250</u>	<u>125,250</u>	<u>124,950</u>

<sup>†</sup> Units started and completed are calculated by completed production of 90,000 less WIP inventory, May 1 of 40,250 = 49,750.

Cost per EU of A:  $\$220,000 / 125,250 = \$1.76$

Cost per EU of B:  $\$350,000 / 124,950 = \$2.80$

4. DBS Ltd. produces a single product. For the current year, budgeted sales volume is 90,000 units and budgeted production volume is 100,000 units. The following standards were used in preparing the current year's budget:

Selling price	\$200 per unit
Variable direct material costs	\$127 per unit
Variable direct labour costs	\$6 per unit
Fixed manufacturing overhead	\$2,800,000 per year
Fixed selling and administration	\$300,000 per year

Assuming DBS Ltd. uses variable costing, what is its budgeted net profit for the current year?

a. \$1,600,000

@ Answer a) is incorrect. It uses 90,000 units for sales and 100,000 units for manufacturing variable costs (that is, no items remaining in inventory). Answer b) is correct. Budgeted profit =  $[(\$200 - \$127 - \$6) \times 90,000] - (\$2,800,000 + \$300,000) = \$2,930,000$ .

\*b. \$2,930,000

@ Answer b) is correct. Budgeted profit =  $[(\$200 - \$127 - \$6) \times 90,000] - (\$2,800,000 + \$300,000) = \$2,930,000$ .

c. \$3,240,000

@ Answer c) is incorrect. It allocates all the costs, including fixed selling and administration costs, to the product. Answer b) is correct. Budgeted profit =  $[(\$200 - \$127 - \$6) \times 90,000] - (\$2,800,000 + \$300,000) = \$2,930,000$ .

d. \$3,600,000

@ Answer d) is incorrect. It uses 100,000 units instead of 90,000 units for sales. Answer b) is correct. Budgeted profit =  $[(\$200 - \$127 - \$6) \times 90,000] - (\$2,800,000 + \$300,000) = \$2,930,000$ .

5. Deejay Co. uses a process costing system. In Department 2, direct materials are added at the 50% stage of completion of the process, and conversion costs are added uniformly throughout the process.

For the month of March, Department 2 had:

Beginning WIP	6,000 units, 60% completed as to conversion costs
Transferred in	42,000 units
Ending WIP	3,000 units 40% completed as to conversion costs
	5,000 units 80% completed as to conversion costs

No spoilage was reported during March.

In computing the equivalent units (EU) of production for direct materials for the month of March, how would the calculation of the weighted average method differ from that of the FIFO method?

a. It would be 8,000 higher under the weighted average method than under the FIFO method.

@ Answer a) is incorrect. The difference between the FIFO method and the weighted average method of process costing in computing EUs of production is attributed to the work done in the beginning WIP inventory. This answer assumes that it is the ending WIP that causes the difference and the weighted average calculation would be higher, as these items would be included. Answer b) is correct. There were 6,000 units in beginning WIP inventory; therefore, the EU of production for transferred-in costs under the weighted average method would be 6,000 higher than that of the FIFO method of process costing.

\*b. It would be 6,000 higher under the weighted average method than under the FIFO method.

@ Answer b) is correct. The difference between the FIFO method and the weighted average method of process costing in computing EU of production is attributed to the work done in the beginning WIP inventory. There were 6,000 units in beginning WIP inventory; therefore, the EU of production for transferred-in costs under the weighted average method would be 6,000 higher than that of the FIFO method of process costing.

c. It would be 6,000 lower under the weighted average method than under the FIFO method.

@ Answer c) is incorrect. The difference between the FIFO method and the weighted average method of process costing in computing EU of production is attributed to the work done in the beginning WIP inventory. However, it will be higher under the weighted average method because of these units, not lower. Answer b) is correct. There were 6,000 units in beginning WIP inventory; therefore, the EU of production for transferred-in costs under the weighted average method would be 6,000 higher than that of the FIFO method of process costing.

d. It would be the same under the weighted average method as under the FIFO method.

@ Answer d) is incorrect. The difference between the FIFO method and the weighted average method of process costing in computing EU of production is attributed to the work done in the beginning WIP inventory. This answer does not consider the 6,000 units in beginning inventory. Answer b) is correct. There were 6,000 units in beginning WIP inventory; therefore, the EU of production for transferred-in costs under the weighted average method would be 6,000 higher than that of the FIFO method of process costing.

6. Molly Smith is the regional manager at a credit union and supervises four branch managers. During the annual budgeting period, Molly provides some general guidance and historical information to her branch managers on budget targets, but leaves the actual budget preparation to the managers to encourage them to take ownership of their plans. What budgetary approach are Molly and her managers displaying?

\*a. Participative budgeting

@ Answer a) is correct. The managers are drafting their own budgets based on their knowledge of their respective branches within the guidance given from Molly. They are taking an active role in the budget creation process and will be more motivated to achieve the targets because they set them.

b. Zero-based budgeting

@ Answer b) is incorrect. As Molly is providing historical information, this eliminates zero-based budgeting as an approach. Answer a) is correct. The managers are drafting their own budgets based on their knowledge of their respective branches within the guidance given from Molly. They are taking an active role in the budget creation process and will be more motivated to achieve the targets because they set them.

c. Traditional budgeting

@ Answer c) is incorrect. While the managers were provided some information, it doesn't state that there were general percentages applied to the budget. Furthermore, the managers were able to adjust the budget to fit their needs, which is not aligned with the traditional budgeting approach. Answer a) is correct. The managers are drafting their own budgets based on their knowledge of their respective branches within the guidance given from Molly. They are taking an active role in the budget creation process and will be more motivated to achieve the targets because they set them.

d. Budget as a performance measure

@ Answer d) is incorrect. While the managers may be assessed on the budget, this isn't a budgetary approach. It was noted that Molly wanted them to take ownership; there was no mention that the managers were going to be assessed on their adherence to the budget. Answer a) is correct. The managers are drafting their own budgets based on their knowledge of their respective branches within the guidance given from Molly. They are taking an active role in the budget creation process and will be more motivated to achieve the targets because they set them.

7. Which of the following statements about balanced scorecards is true?

a. Balanced scorecards always have four perspectives.

@ Answer a) is incorrect. A balanced scorecard is tailored to each organization, and while many organizations use the four perspectives, the balanced scorecards are more about the process rather than the number of perspectives. Answer c) is correct. A balanced scorecard can be used in many organizations and is not just a tool for profit-oriented organizations.

b. Balanced scorecards are only for organization-wide performance management.

@ Answer b) is incorrect. A balanced scorecard can be drafted for individual employees as well. Answer c) is correct. A balanced scorecard can be used in many organizations and is not just a tool for profit-oriented organizations.

\*c. Balanced scorecards can be used in not-for-profit organizations.

@ Answer c) is correct. A balanced scorecard can be used in many organizations and is not just a tool for profit-oriented organizations.

d. Balanced scorecards must be updated annually.

@ Answer d) is incorrect. While it is recommended that balanced scorecards be reviewed on a regular basis, there is no requirement to update them annually. Answer c) is correct. A balanced scorecard can be used in many organizations and is not just a tool for profit-oriented organizations.

8. A manufacturer has the following data:

		Hours required per unit	
Department	Available annual machine hours	Widget A	Widget B
Assembly	10,000	3	4
Packaging	4,000	1	2

The contribution margin (CM) per unit for Widget A is \$12 and for Widget B is \$14. Current market demand for Widget A is limited to 2,500 units per year. What is the yearly product mix that maximizes profitability?

a. 0 Widget A, 2,000 Widget B

@ Answer a) is incorrect. This calculation maximizes Widget B based on the packaging constraint (contributes \$28,000). Answer c) is correct. Confirm using trial and error:

A	B	CM
0	2,000	\$28,000
2,500	625	\$38,750

Therefore, the optimal product mix is the maximum number of Widget A (2,500) and using the remaining available machine hours to produce 625 units of Widget B.

b. 2,000 Widget A, 1,000 Widget B

@ Answer b) is incorrect. This calculation uses the point of intersection, even though it does not maximize CM (contributes \$38,000).

$$3A + 4B = 10,000$$

$$A + 2B = 4,000$$

$$\text{Substituting: } 3A + 4[(4,000 / 2) - A / 2] = 10,000$$

$$3A + 4(2,000 - 1 / 2A) = 10,000; A = 2,000$$

$$3(2,000) + 4B = 10,000; B = 1,000$$

$$\text{The total CM is } \$12(2,000) + \$14(1,000) = \$38,000.$$

Answer c) is correct.

Confirm using trial and error:

A	B	CM
0	2,000	\$28,000
2,500	625	\$38,750

Therefore, the optimal product mix is the maximum number of Widget A (2,500) and using the remaining available machine hours to produce 625 units of Widget B.

\*c. 2,500 Widget A, 625 Widget B

@ Answer c) is correct. Confirm using trial and error:

<b>A</b>	<b>B</b>	<b>CM</b>
0	2,000	\$28,000
2,500	625	\$38,750

Therefore, the optimal product mix is the maximum number of Widget A (2,500) and using the remaining available machine hours to produce 625 units of Widget B.

d. 0 Widget A, 2,500 Widget B

@ Answer d) is incorrect. This calculation maximizes Widget B based on the assembly constraint (contributes \$35,000).

Answer c) is correct. Confirm using trial and error:

<b>A</b>	<b>B</b>	<b>CM</b>
0	2,000	\$28,000
2,500	625	\$38,750

Therefore, the optimal product mix is the maximum number of Widget A (2,500) and using the remaining available machine hours to produce 625 units of Widget B.

9. Russ has developed a new device that he hopes to produce and market on a large scale. Russ will rent a production space for \$500 per month and production equipment for \$800 per month. Russ estimates the material cost per unit will be \$5 and the labour cost per unit will be \$3. Advertising and promotion will cost \$900 per month. He will hire workers so he can spend his time promoting the product.

In this context, the production space rental is a:

a. Fixed period cost

@ Answer a) is incorrect. Period costs are not related to manufacturing, and production space is a manufacturing cost. Answer d) is correct because the production space is a fixed monthly amount regardless of the activity. It is also used in the manufacturing process; therefore, it is a product cost.

b. Variable period cost

@ Answer b) is incorrect. A variable cost is a cost that varies proportionately with activity. The production space does not vary with activity. Period costs are not related to manufacturing, and production space is a manufacturing cost. Answer d) is correct because the production space rental is a fixed monthly amount regardless of the activity. It is also used in the manufacturing process; therefore, it is a product cost.

c. Variable product cost

@ Answer c) is incorrect. A variable cost is a cost that varies proportionately with activity. The production space does not vary with activity. Answer d) is correct because the production space rental is a fixed monthly amount regardless of the activity. It is also used in the manufacturing process; therefore, it is a product cost.

\*d. Fixed product cost

@ Answer d) is correct. The production space rental is a fixed monthly amount regardless of the activity. It is also used in the manufacturing process; therefore, it is a product cost.

10. The following is information from the records of SKT Inc. for the month of June:

	Opening inventory June 1	Ending inventory June 30	Purchased in June
Direct materials	\$100,000	\$100,000	\$920,000
Indirect materials	\$20,000	\$15,000	\$40,000
Work-in-progress	0	0	n/a

Other expenses:

- Direct labour: \$680,000
- Rent and utilities: \$200,000
- Administrative salaries and benefits: \$36,000

The rent and utilities covers the factory and the head office. SKT Inc. allocates 60% of rent and utilities to manufacturing and 40% to selling and administration.

What amount of indirect manufacturing costs would be charged to the cost of goods manufactured in June?

a. \$160,000

@ Answer a) is incorrect. It includes the cost of indirect materials purchased instead of the cost of indirect materials used. Answer b) is correct.

Indirect materials used = \$20,000 + \$40,000 – \$15,000 = \$45,000

Rent and utilities allocated to manufacturing = 60% × \$200,000 = \$120,000

Indirect manufacturing costs = \$165,000

\*b. \$165,000

@ Answer b) is correct.

Indirect materials used = \$20,000 + \$40,000 – \$15,000 = \$45,000

Rent and utilities allocated to manufacturing = 60% × \$200,000 = \$120,000

Indirect manufacturing costs = \$165,000

c. \$1,765,000

@ Answer c) is incorrect. This includes all manufacturing costs, instead of just the indirect manufacturing costs. Answer b) is correct.

Indirect materials used = \$20,000 + \$40,000 – \$15,000 = \$45,000

Rent and utilities allocated to manufacturing = 60% × \$200,000 = \$120,000

Indirect manufacturing costs = \$165,000

d. \$1,085,000

@ Answer d) is incorrect. The incorrectly includes direct materials. Answer b) is correct.

Indirect materials used = \$20,000 + \$40,000 – \$15,000 = \$45,000

Rent and utilities allocated to manufacturing = 60% × \$200,000 = \$120,000

Indirect manufacturing costs = \$165,000

11. HWW Inc. has a job-order costing system. The company uses predetermined overhead rates in applying manufacturing overhead costs to individual jobs. The predetermined overhead rate in Department A is based on machine hours, and the rate in Department B is based on direct materials cost. HWW has the following estimates for the year:

	Department A	Department B
Machine hours	50,000	68,000
Direct labour hours	45,000	60,000
Direct materials cost	\$250,000	\$220,000
Direct labour cost	\$300,000	\$280,000
Manufacturing overhead cost	\$395,000	\$455,000

What are the predetermined overhead rates for Department A and Department B?

a. \$7.20 and 1.81

@ Answer a) is incorrect. Answer d) is correct. The estimated departmental overhead/estimated drivers for the departments are calculated as follows:

A:  $\$395,000 / 50,000$  machine hours = \$7.90/machine hour

B:  $\$455,000 / \$220,000 = 2.07$  times direct material cost

b. \$8.78 and 2.07

@ Answer b) is incorrect. Answer d) is correct. The estimated departmental overhead/estimated drivers for the departments are calculated as follows:

A:  $\$395,000 / 50,000$  machine hours = \$7.90/machine hour

B:  $\$455,000 / \$220,000 = 2.07$  times direct material cost

c. \$7.20 and 1.62

@ Answer c) is incorrect. Answer d) is correct. The estimated departmental overhead/estimated drivers for the departments are calculated as follows:

A:  $\$395,000 / 50,000$  machine hours = \$7.90/machine hour

B:  $\$455,000 / \$220,000 = 2.07$  times direct material cost

\*d. \$7.90 and 2.07

@ Answer d) is correct. The estimated departmental overhead/estimated drivers for the departments are calculated as follows:

A:  $\$395,000 / 50,000$  machine hours = \$7.90/machine hour

B:  $\$455,000 / \$220,000 = 2.07$  times direct material cost

12. The budgeted total fixed and variable costs of the machine insertion activity centre for XYZ Corp. in Year 8 is \$530,000, assuming an activity level of 50,000 parts inserted. Cost behaviour analysis indicates that the variable cost per part inserted is \$2.20 and that fixed costs remain the same within the relevant range of 48,000 to 52,000 parts inserted. Activity analysis indicates that the cost driver for the machine insertion activity is the number of parts inserted.

In preparing a flexible budget for Year 8 at an activity level of 51,000 parts inserted, what would be the budgeted total costs of the machine insertion activity (rounded to the nearest hundred dollars)?

a. \$642,200

@ Answer a) is incorrect. It considers \$530,000 as the fixed cost:  
 $\$530,000 + (51,000 \times \$2.20) = \$642,200$

Answer c) is correct:

Fixed machine insertion costs =  $\$530,000 - (50,000 \times \$2.20) = \$420,000$

Flexible budget if 51,000 parts are inserted =  $(51,000 \times \$2.20) + \$420,000 = \$532,200$

b. \$540,600

@ Answer b) is incorrect. It considers that \$530,000 is all variable costs:  
 $\$530,000 / 50,000 = \$10.60$ ;  $51,000 \times \$10.60 = \$540,600$

Answer c) is correct:

Fixed machine insertion costs =  $\$530,000 - (50,000 \times \$2.20) = \$420,000$

Flexible budget if 51,000 parts are inserted =  $(51,000 \times \$2.20) + \$420,000 = \$532,200$

\*c. \$532,200

@ Answer c) is correct:

Fixed machine insertion costs =  $\$530,000 - (50,000 \times \$2.20) = \$420,000$

Flexible budget if 51,000 parts are inserted =  $(51,000 \times \$2.20) + \$420,000 = \$532,200$

d. \$530,000

@ Answer d) is incorrect. It assumes all costs are fixed and do not vary with a change in production.

Answer c) is correct:

Fixed machine insertion costs =  $\$530,000 - (50,000 \times \$2.20) = \$420,000$

Flexible budget if 51,000 parts are inserted =  $(51,000 \times \$2.20) + \$420,000 = \$532,200$

13. A product is being produced that requires manufacturing space costing \$1,000 per month and the lease of equipment for \$700 per month. The material cost will be \$12 per unit and the labour cost will be \$13 per unit. Advertising and promotion will cost \$2,000 per month.

Advertising and promotion is a:

a. Variable product cost

@ Answer a) is incorrect. A variable cost is a cost that varies proportionately with activity, and advertising and promotion costs do not vary with activity. Further, advertising and promotion is not attributable to the manufacturing process and therefore is not a product cost. Answer c) is correct because advertising and promotion is not attributable to the manufacturing process and therefore is a period cost. Advertising and promotion does not vary with activity and is therefore fixed.

b. Fixed product cost

@ Answer b) is incorrect because advertising and promotion is not attributable to the manufacturing process and therefore is not a product cost. Answer c) is correct because advertising and promotion is not attributable to the manufacturing process and therefore is a period cost. Advertising and promotion does not vary with activity and is therefore fixed.

\*c. Fixed period cost

@ Answer c) is correct because advertising and promotion is not attributable to the manufacturing process and therefore is a period cost. Advertising and promotion does not vary with activity and is therefore fixed.

d. Variable period cost

@ Answer d) is incorrect. A variable cost is a cost that varies proportionately with activity, and advertising and promotion costs do not vary with activity. Answer c) is correct because advertising and promotion is not attributable to the manufacturing process and therefore is a period cost. Advertising and promotion does not vary with activity and is therefore fixed.

14. A factory manager's salary is a:

a. Variable product cost

@ Answer a) is incorrect. The factory manager's salary is fixed for the period and is not variable. Answer b) is correct because the factory manager's salary is related to the manufacturing process and thus is a product cost. Also, it is fixed for the period.

\*b. Fixed product cost

@ Answer b) is correct. The factory manager's salary is related to the manufacturing process and thus is a product cost. Also, it is fixed for the period.

c. Variable period cost

@ Answer c) is incorrect. The factory manager's salary is fixed for the period and is not variable. In addition, the cost is related to the manufacturing process and thus is not a period cost. Answer b) is correct because the factory manager's salary is related to the manufacturing process and thus is a product cost. Also, it is fixed for the period.

d. Fixed period cost

@ Answer d) is incorrect. The factory manager's salary is related to the manufacturing process and thus is not a period cost. Answer b) is correct because the factory manager's salary is related to the manufacturing process and thus is a product cost. Also, it is fixed for the period.

15. Matilda Ma Home Accessories has determined that for its Floorina model of lamp, the direct materials cost is \$5 per unit and the direct labour cost is \$4 per unit. Based on 20 monthly observations, the company ran a regression that projected the overhead associated with this model of lamp as follows:

Overhead = \$16,500 + \$0.75X, where X is the direct labour cost.

The selling price for the Floorina lamp is \$17 per unit. What is the expected gross margin from sales of the Floorina lamp next month if sales volume is estimated to be 5,000 units?

\*a. \$8,500

@ Answer a) is correct.

Variable cost per unit:  $\$5 + \$4 + (\$0.75 \times \$4) = \$12$

Total contribution margin =  $(\$17 - \$12) \times 5,000 = \$25,000$

Gross margin =  $\$25,000 - \$16,500 = \$8,500$

b. \$19,750

@ Answer b) is incorrect. Answer a) is correct, calculated as follows:

Variable cost per unit:  $\$5 + \$4 + (\$0.75 \times \$4) = \$12$

Total contribution margin =  $(\$17 - \$12) \times 5,000 = \$25,000$

Gross margin =  $\$25,000 - \$16,500 = \$8,500$

c. \$23,500

@ Answer c) is incorrect. Answer a) is correct, calculated as follows:

Variable cost per unit:  $\$5 + \$4 + (\$0.75 \times \$4) = \$12$

Total contribution margin =  $(\$17 - \$12) \times 5,000 = \$25,000$

Gross margin =  $\$25,000 - \$16,500 = \$8,500$

d. \$36,250

@ Answer d) is incorrect. Answer a) is correct, calculated as follows:

Variable cost per unit:  $\$5 + \$4 + (\$0.75 \times \$4) = \$12$

Total contribution margin =  $(\$17 - \$12) \times 5,000 = \$25,000$

Gross margin =  $\$25,000 - \$16,500 = \$8,500$

16. A company has the following machine hours and production costs for the last six months of last year:

Month	Machine hours	Production cost
July	15,000	\$12,330
August	13,500	10,300
September	11,500	9,580
October	15,500	12,080
November	14,800	11,692
December	12,100	9,922

If the company expects to incur 14,000 machine hours in January, what will be the total production cost estimate using the high-low method?

a. \$8,750

@ Answer a) is incorrect. Answer b) is correct, calculated as follows:

Variable costs =  $(\$12,080 - \$9,580) / (15,500 - 11,500) = \$0.625$

Fixed costs =  $\$12,080 - (\$0.625 \times 15,500) = \$2,392.50$

$\$2,392.50 + (14,000 \times \$0.625) = \$11,142.50$

\*b. \$11,143

@ Answer b) is correct. The highest and lowest values of the independent variable (machine hours) are used:

Variable costs =  $(\$12,080 - \$9,580) / (15,500 - 11,500) = \$0.625$

Fixed costs =  $\$12,080 - (\$0.625 \times 15,500) = \$2,392.50$

$\$2,392.50 + (14,000 \times \$0.625) = \$11,142.50$

c. \$11,544

@ Answer c) is incorrect. It uses the highest value of the dependent variable (production cost). Answer b) is correct, calculated as follows:

Variable costs =  $(\$12,080 - \$9,580) / (15,500 - 11,500) = \$0.625$

Fixed costs =  $\$12,080 - (\$0.625 \times 15,500) = \$2,392.50$

$\$2,392.50 + (14,000 \times \$0.625) = \$11,142.50$

d. \$13,049

@ Answer d) is incorrect. Answer b) is correct, calculated as follows:

Variable costs =  $(\$12,080 - \$9,580) / (15,500 - 11,500) = \$0.625$

Fixed costs =  $\$12,080 - (\$0.625 \times 15,500) = \$2,392.50$

$\$2,392.50 + (14,000 \times \$0.625) = \$11,142.50$

17. Which of the following statements regarding the organizational performance measurement tool Six Sigma is true?

a. It applies only to reducing manufacturing defects.

@ Answer a) is incorrect. Six Sigma goes beyond just improving manufacturing processes.

Answer b) is correct. Six Sigma involves measuring and analyzing business processes to improve quality for the customer through reduced cycle time, reduced defects, and improved customer satisfaction.

\*b. It uses statistical quality control and measurement methods to drive improvements in key strategic processes.

@ Answer b) is correct. Six Sigma involves measuring and analyzing business processes to improve quality for the customer through reduced cycle time, reduced defects, and improved customer satisfaction.

c. It translates the company strategy into four balanced measurement perspectives.

@ Answer c) is incorrect. This is a description of the Balanced Scorecard tool.

Answer b) is correct. Six Sigma involves measuring and analyzing business processes to improve quality for the customer through reduced cycle time, reduced defects, and improved customer satisfaction.

d. It is focused on several categories, including leadership, strategic planning, and results.

@ Answer d) is incorrect. These categories are specifically for application to the Baldrige Award.

Answer b) is correct. Six Sigma involves measuring and analyzing business processes to improve quality for the customer through reduced cycle time, reduced defects, and improved customer satisfaction.

18. Which of the following activities is most likely an example of a non-value-added activity?

a. Putting a motor in an automobile in an automobile factory

@ Answer a) is incorrect. The most important characteristic of a non-value-added activity is that it adds delay and cost to the production process without adding value. As it is an essential part of the automobile, installing the motor definitely adds value to the product.

Answer b) is correct. Moving work-in-process inventories in the factory is an operation that has no impact on the value that the customer attributes to the product, and therefore it does not add value. Furthermore, such moves are likely to increase production delays, something that could actually have a negative impact on value.

\*b. Moving work-in-process inventories from one part of the factory to another

@ Answer b) is correct. The most important characteristic of a non-value-added activity is that it adds delay and cost to the production process without adding value. Moving work-in-process inventories in the factory is an operation that has no impact on the value that the customer attributes to the product, and therefore it does not add value. Furthermore, such moves are likely to increase production delays, something that could actually have a negative impact on value.

c. Delivering finished goods to the customer

@ Answer c) is incorrect. The most important characteristic of a non-value-added activity is that it adds delay and cost to the production process without adding value. If a product is delivered, the customer saves the time and resources necessary to get access to the product and should therefore attach some value to the delivery process.

Answer b) is correct. Moving work-in-process inventories in the factory is an operation that has no impact on the value that the customer attributes to the product, and therefore it does not add value. Furthermore, such moves are likely to increase production delays, something that could actually have a negative impact on value.

d. Adding spices to a cooked meal in a restaurant

@ Answer d) is incorrect. The most important characteristic of a non-value-added activity is that it adds delay and cost to the production process without adding value. Adding spices to a meal is likely to improve the meal's taste and that should increase the value of the meal to the customer.

Answer b) is correct. Moving work-in-process inventories in the factory is an operation that has no impact on the value that the customer attributes to the product, and therefore it does not add value. Furthermore, such moves are likely to increase production delays, something that could actually have a negative impact on value.

19. DBS Ltd. produces a single product. For the current year, budgeted sales volume is 90,000 units and budgeted production volume is 100,000 units. The following standards were used in preparing the current year's budget:

Selling price	\$200 per unit
Variable direct material costs	\$127 per unit
Variable direct labour costs	\$6 per unit
Fixed manufacturing overhead	\$2,800,000 per year
Fixed selling and administration	\$300,000 per year

Assuming DBS uses absorption costing, what is its budgeted net profit for the current year?

a. \$1,600,000

@ Answer a) is incorrect. It uses 90,000 units for sales and 100,000 units for manufacturing variable costs (that is, no items remaining in inventory). Answer c) is correct.

Fixed cost per unit =  $\$2,800,000 / 100,000 \text{ units} = \$28 \text{ per unit}$

Budgeted profit =  $[(\$200 - \$127 - \$6 - \$28) \times 90,000] - \$300,000 = \$3,210,000$

b. \$2,930,000

@ Answer b) is incorrect. This calculation represents profits using variable costing. Answer c) is correct.

Fixed cost per unit =  $\$2,800,000 / 100,000 \text{ units} = \$28 \text{ per unit}$

Budgeted profit =  $[(\$200 - \$127 - \$6 - \$28) \times 90,000] - \$300,000 = \$3,210,000$

\*c. \$3,210,000

@ Answer c) is correct.

Fixed cost per unit =  $\$2,800,000 / 100,000 \text{ units} = \$28 \text{ per unit}$

Budgeted profit =  $[(\$200 - \$127 - \$6 - \$28) \times 90,000] - \$300,000 = \$3,210,000$

d. \$3,240,000

@ Answer d) is incorrect. It allocates the fixed selling and administrative costs to the product. Answer c) is correct.

Fixed cost per unit =  $\$2,800,000 / 100,000 \text{ units} = \$28 \text{ per unit}$

Budgeted profit =  $[(\$200 - \$127 - \$6 - \$28) \times 90,000] - \$300,000 = \$3,210,000$

20. A manufacturer processes 100,000 kilograms of direct materials to produce two products: Product X and Product Z.

	Production (kg) at split-off	Selling price at split-off
Product X	15,000	\$70
Product Z	40,000	\$90
Waste	45,000	\$0

The total costs incurred in the joint manufacturing process were \$1,000,000.

Using the physical measures method, what are the joint costs allocated to products X and Z (rounding to the nearest dollar)?

a. Product X: \$437,500; Product Z: \$562,500

@ Answer a) is incorrect. It uses unit selling price to determine the cost allocation ratios. Answer d) is correct. It uses relative production volume to determine the ratios.

Product X:  $(\$1,000,000 \times 15 / 55) = \$272,727$

Product Z:  $(\$1,000,000 \times 40 / 55) = \$727,273$

b. Product X: \$225,806; Product Z: \$774,194

@ Answer b) is incorrect. It uses the relative sales value at split-off method. Answer d) is correct. It uses relative production volume to determine the ratios.

Product X:  $(\$1,000,000 \times 15 / 55) = \$272,727$

Product Z:  $(\$1,000,000 \times 40 / 55) = \$727,273$

c. Product X: \$500,000; Product Z: \$500,000

@ Answer c) is incorrect. It simply allocates half the joint costs to each product. Using the physical measure method, the products that are produced in greater quantity should bear more costs. Answer d) is correct. It uses relative production volume to determine the ratios.

Product X:  $(\$1,000,000 \times 15 / 55) = \$272,727$

Product Z:  $(\$1,000,000 \times 40 / 55) = \$727,273$

\*d. Product X: \$272,727; Product Z: \$727,273

@ Answer d) is correct. It uses relative production volume to determine the ratios.

Product X:  $(\$1,000,000 \times 15 / 55) = \$272,727$

Product Z:  $(\$1,000,000 \times 40 / 55) = \$727,273$

21. Which of the following statements about a well-designed performance measurement system is true?

\*a. It includes measures that are related to the goals of the organization.

@ Answer a) is correct. A performance measurement system should relate to the goals of the organization, be reasonably objective, and be easily quantifiable.

b. It includes measures that primarily focus on immediate short-term concerns.

@ Answer b) is incorrect. Performance measures should be designed to balance managers' attention on both short- and long-term goals. Otherwise, managers may make decisions that result in higher current-year profit, for example, at the expense of investments that would result in even greater profits in future years. Answer a) is correct. A performance measurement system should relate to the goals of the organization, be reasonably objective, and be easily quantifiable.

c. It includes measures that are mostly qualitative and require judgment.

@ Answer c) is incorrect. Performance measures in a well-designed performance measurement system should be reasonably objective and easily quantified. Answer a) is correct. A performance measurement system should relate to the goals of the organization, be reasonably objective, and be easily quantifiable.

d. It includes measures that are easily attainable to allow for positive morale.

@ Answer d) is incorrect. Performance measurement systems should measure objectives that are attainable and are within control, but they should not be based on ease of attainability. A challenging yet achievable goal should be the target for the performance measure. Answer a) is correct. A performance measurement system should relate to the goals of the organization, be reasonably objective, and be easily quantifiable.

22. ZIL Inc. operates two divisions, which are treated as investment centres. Data for each division are as follows (in '000s):

	Division A	Division B
Net earnings	\$65,000	\$140,000
Total assets	\$400,000	\$850,000

The company's required rate of return is 15%. The president wishes to evaluate the performance of these divisions relative to one another and is unsure what the return on investment or residual income would be for each division.

Based on the return on investment and residual income performance measures, which of the following statements is true?

a. Division A performed better, because its residual income is higher than that of Division B.

@ Answer a) is incorrect.

Division A does not have higher residual income than Division B.

Answer b) is correct.

Return on investment Division A =  $\$65,000 / \$400,000 = 16.3\%$

Return on investment Division B =  $\$140,000 / \$850,000 = 16.5\%$

Residual income Division A =  $\$65,000 - (\$400,000 \times 0.15) = \$5,000$

Residual income Division B =  $\$140,000 - (\$850,000 \times 0.15) = \$12,500$

Division B has a higher return on investment and residual income.

\*b. Division B performed better, because its return on investment and residual income are higher than those of Division A.

@ Answer b) is correct.

Return on investment Division A =  $\$65,000 / \$400,000 = 16.3\%$

Return on investment Division B =  $\$140,000 / \$850,000 = 16.5\%$

Residual income Division A =  $\$65,000 - (\$400,000 \times 0.15) = \$5,000$

Residual income Division B =  $\$140,000 - (\$850,000 \times 0.15) = \$12,500$

Division B has a higher return on investment and residual income.

c. Division A performed better, because its return on investment is higher than that of Division B.

@ Answer c) is incorrect.

Division A does not have higher return on investment than Division B.

Answer b) is correct.

Return on Investment Division A =  $\$65,000 / \$400,000 = 16.3\%$

Return on Investment Division B =  $\$140,000 / \$850,000 = 16.5\%$

Residual Income Division A =  $\$65,000 - (\$400,000 \times 0.15) = \$5,000$

Residual Income Division B =  $\$140,000 - (\$850,000 \times 0.15) = \$12,500$

Division B has a higher return on investment and residual income.

d. The divisions performed equally.

@ Answer d) is incorrect.

The divisions did not perform equally.

Answer b) is correct.

Return on investment Division A =  $\$65,000 / \$400,000 = 16.3\%$

Return on investment Division B =  $\$140,000 / \$850,000 = 16.5\%$

Residual income Division A =  $\$65,000 - (\$400,000 \times 0.15) = \$5,000$

Residual income Division B =  $\$140,000 - (\$850,000 \times 0.15) = \$12,500$

Division B has a higher return on investment and residual income.

23. After an analysis of an organization's operations, it was evident that department performance varied and that every department worked independently to achieve departmental objectives. The organization would like to improve overall product output, which would require improvement from all departments.

To achieve this improvement, the organization should do which of the following?

a. Introduce cost savings as financial departmental performance measures.

@ Answer a) is incorrect. Introducing cost savings as financial departmental performance measures addresses neither the differences between departments nor the need for overall improvement. It may increase the gaps in departmental performance. Answer d) is correct. Plant-wide incentive pay plans generally reward an increase in organization-wide outcomes that directly affect the cost and/or profit picture of the organization. Usually these plans reward increases in productivity of the organization as measured by reduction of organizational costs, in comparison with industry benchmarks.

b. Develop a wage structure.

@ Answer b) is incorrect. Although a wage structure creates a logical hierarchy of wages, it does not address the overall goal of output improvement. Answer d) is correct. Plant-wide incentive pay plans generally reward an increase in organization-wide outcomes that directly affect the cost and/or profit picture of the organization. Usually these plans reward increases in productivity of the organization as measured by reduction of organizational costs, in comparison with industry benchmarks.

c. Increase the rewards offered to employees in well-performing departments.

@ Answer c) is incorrect. Increasing the reward offered to employees in well-performing departments addresses neither the differences between departments nor the need for overall improvement. It may increase the gaps in departmental performance. Answer d) is correct. Plant-wide incentive pay plans generally reward an increase in organization-wide outcomes that directly affect the cost and/or profit picture of the organization. Usually these plans reward increases in productivity of the organization as measured by reduction of organizational costs, in comparison with industry benchmarks.

\*d. Launch a plant-wide incentive pay plan.

@ Answer d) is correct. Plant-wide incentive pay plans generally reward an increase in organization-wide outcomes that directly affect the cost and/or profit picture of the organization. Usually these plans reward increases in productivity of the organization as measured by reduction of organizational costs, in comparison with industry benchmarks.

24. Glory Ltd. sells tires. In March, it had an opening inventory of 3,500 tires and it sold 5,000 tires. For April, budgeted sales are 5,250 tires and budgeted ending inventory is 3,000 tires. If there were 3,300 tires in inventory on March 31, how many tires should Glory purchase in April?

\*a. 4,950

@ Answer a) is correct.

April sales	5,250
April ending inventory	<u>3,000</u>
Total required	8,250
Less: opening inventory	<u>3,300</u>
Budgeted purchase	4,950

b. 8,250

@ Answer b) is incorrect. It ignores opening inventory. Answer a) is correct.

April sales	5,250
April ending inventory	<u>3,000</u>
Total required	8,250
Less: opening inventory	<u>3,300</u>
Budgeted purchase	4,950

c. 4,750

@ Answer c) is incorrect. It uses March opening inventory for April opening inventory. Answer a) is correct.

April sales	5,250
April ending inventory	<u>3,000</u>
Total required	8,250
Less: opening inventory	<u>3,300</u>
Budgeted purchase	4,950

d. 1,950

@ Answer d) is incorrect. It omits April desired ending inventory. Answer a) is correct.

April sales	5,250
April ending inventory	<u>3,000</u>
Total required	8,250
Less: opening inventory	<u>3,300</u>
Budgeted purchase	4,950

25. The first step in formulating next year's master budget for a manufacturing company is to project which of the following?

\*a. Next year's sales budget to decide next year's sales volume

@ Answer a) is correct. The sales forecast is the usual starting point for budgeting because production and inventory levels generally depend on the forecasted level of sales.

b. Next year's cash budget to decide if the company needs to take out a bank loan

@ Answer b) is incorrect. Cash budgets are prepared as part of the overall financial plan. The cash budget forecasts cash receipts and disbursements for sales, product costs, general and administrative costs, capital assets, investments, and financing. Answer a) is correct. The sales forecast is the usual starting point for budgeting because production and inventory levels generally depend on the forecasted level of sales.

c. Next year's materials and labour budget to decide on next year's direct material costs and direct labour costs

@ Answer c) is incorrect. The sales budget must be determined before the production budget can be prepared. The production budget includes the direct materials, direct labour, and overhead budgets. Answer a) is correct. The sales forecast is the usual starting point for budgeting because production and inventory levels generally depend on the forecasted level of sales.

d. Next year's production budget to decide on next year's production schedule

@ Answer d) is incorrect. The sales budget must be determined before the production budget can be prepared. Answer a) is correct. The sales forecast is the usual starting point for budgeting because production and inventory levels generally depend on the forecasted level of sales.

26. Deatter Co. is a manufacturer of office furniture. It sells two products: X and Y. Cost information is listed below:

	<b>Product X</b>	<b>Product Y</b>
Selling price	\$490	\$560
Variable costs	280	420
Contribution	\$210	\$140
Machine hours to produce one unit	0.8	0.4
Maximum unit sales per month	525	700

The company presently operates the machine for a single eight-hour shift for 23 working days each month. Management is thinking about operating the machine for two shifts, which will increase the machine's availability by another eight hours per day for 23 days per month. This change would require additional fixed costs of \$5,000 per month.

If the company decides to set up the new shift, what is the objective formula for the month?

a.  $262.5X + 350Y - 5,000 = \text{profit}$

@ Answer a) is incorrect. The profit maximization formula does not factor in constraints, such as machine hours per unit. The above formula highlights the hourly CM per product. Machine hours to produce a unit would be used to assist in concluding on which unit is more profitable, and would be produced first.

Answer c) is correct. The objective formula focuses on profit maximization. The constraints are not part of this equation, as it is strictly focused on CM per unit, per product, less monthly fixed costs.

b.  $0.8X + 0.4Y \leq 8 \text{ hours}$

@ Answer b) is incorrect. The above formula is a daily constraint on hours, and while this is valuable information, this is not the objective of the analysis. The objective is commonly profit maximization.

Answer c) is correct. The objective formula focuses on profit maximization. The constraints are not part of this equation, as it is strictly focused on CM per unit, per product, less monthly fixed costs.

\*c.  $210X + 140Y - 5,000 = \text{profit}$

@ Answer c) is correct. The objective formula focuses on profit maximization. The constraints are not part of this equation, as it is strictly focused on CM per unit, per product, less monthly fixed costs.

d.  $0.8X + 0.4Y \leq 368$  hours

@ Answer d) is incorrect. The above formula is a monthly constraint on hours, and while this is valuable information, this is not the objective of the analysis. The objective is commonly profit maximization.

Answer c) is correct. The objective formula focuses on profit maximization. The constraints are not part of this equation, as it is strictly focused on CM per unit, per product, less monthly fixed costs.

27. The production budget and the total number of units to be produced are as follows:

	Q1	Q2	Q3	Q4
Units of production	63,600	54,400	40,600	48,400

The time required to produce one unit is 36 minutes. The direct labour cost per hour is \$11.25. What is the total annual direct labour cost?

a. \$838,350

@ Answer a) is incorrect. It multiplies the units to be produced by 0.36 and \$11.25 =  $(207,000 \times 0.36 \times \$11.25 = \$838,350)$ . Answer d) is correct.

	Q1	Q2	Q3	Q4	Annual
Units to be produced (see production budget)	63,600	54,400	40,600	48,400	207,000
Direct labour hours required per unit	$\times 0.6$				
Total labour hours required	38,160	32,640	24,360	29,040	124,200
Direct labour cost per hour	$\times 11.25$				
Total direct labour cost	\$429,300	\$367,200	\$274,050	\$326,700	\$1,397,250

b. \$2,328,750

@ Answer b) is incorrect. It multiplies the units to be produced by only the direct labour cost per hour =  $(207,000 \times \$11.25 = \$2,328,750)$ . Answer d) is correct.

	Q1	Q2	Q3	Q4	Annual
Units to be produced (see production budget)	63,600	54,400	40,600	48,400	207,000
Direct labour hours required per unit	$\times 0.6$				
Total labour hours required	38,160	32,640	24,360	29,040	124,200
Direct labour cost per hour	$\times 11.25$				
Total direct labour cost	\$429,300	\$367,200	\$274,050	\$326,700	\$1,397,250

c. \$326,700

@ Answer c) is incorrect. It only considers Q4 production. ( $48,400 \times 0.6 \times \$11.25 = \$326,700$ ). Answer d) is correct.

	Q1	Q2	Q3	Q4	Annual
Units to be produced (see production budget)	63,600	54,400	40,600	48,400	207,000
Direct labour hours required per unit	$\times 0.6$				
Total labour hours required	38,160	32,640	24,360	29,040	124,200
Direct labour cost per hour	$\times 11.25$				
Total direct labour cost	\$429,300	\$367,200	\$274,050	\$326,700	\$1,397,250

\*d. \$1,397,250

@ Answer d) is correct.

	Q1	Q2	Q3	Q4	Annual
Units to be produced (see production budget)	63,600	54,400	40,600	48,400	207,000
Direct labour hours required per unit	$\times 0.6$				
Total labour hours required	38,160	32,640	24,360	29,040	124,200
Direct labour cost per hour	$\times 11.25$				
Total direct labour cost	\$429,300	\$367,200	\$274,050	\$326,700	\$1,397,250

28. Growit, a seed packing and distribution company, has just completed its first year of operations and has started to compile its three-year operational budget. Growit is using regression analysis in its business planning and has come up with four scenarios.

Which of the following represents the strongest relationship between the two variables, based on the regression analysis summary output?

a. Biweekly maintenance costs and machine hours

SUMMARY OUTPUT

<b>Regression Statistics</b>	
Multiple R	0.805645917
R Square	0.649065343
Adjusted R Square	0.634443066
Standard Error	16960.32863
Observations	26

ANOVA

	<b>df</b>	<b>SS</b>	<b>MS</b>	<b>F</b>	<b>Significance F</b>
<b>Regression</b>	1	12768560221	12768560221	44.38879984	6.84301E-07
<b>Residual</b>	24	6903665933	287652747.2		
<b>Total</b>	25	19672226154			

	<b>Coefficients</b>	<b>Standard Error</b>	<b>t Stat</b>	<b>P-value</b>	<b>Lower 95%</b>	<b>Upper 95%</b>	<b>Lower 95.0%</b>	<b>Upper 95.0%</b>
<b>Intercept</b>	439285.256	28757.1465	15.27569003	7.30E-14	379933.4227	498637.0893	379933.4227	498637.0893
<b>Machine Hours</b>	-1.817453317	0.272788817	-6.662492015	6.84301E-07	-2.380461765	-1.254444869	-2.380461765	-1.254444869

@ Answer a) is incorrect. While the  $r^2$  is a reasonably high figure with 65% of the points falling close to the linear line, the standard error is extremely high. The P-value for the t stat is  $< 0.05$ , and therefore significant. However, the upper and lower 95% values are negative, which suggests that as machine hours increase, the biweekly maintenance decreases. Answer c) is correct. The  $r^2$  shows a clear relationship between the two variables with 84% of the points falling close to the linear line, but the standard error is high, which is a cause for concern. The P-value for the number of units t stat is  $< 0.05$ , suggesting a significant cause-and-effect relationship, and the upper and lower 95% values are both positive. While this data set is the strongest provided, with a sample size of 12, the results could be misleading, so it is recommended that Growit expand its data set as the company obtains more information.

b. Monthly labour hours and overhead costs

SUMMARY OUTPUT

<b>Regression Statistics</b>	
Multiple R	0.855690647
R Square	0.732206484
Adjusted R Square	0.705427132
Standard Error	13029.68785
Observations	12

ANOVA

	<b>df</b>	<b>SS</b>	<b>MS</b>	<b>F</b>	<b>Significance F</b>
<b>Regression</b>	1	4641961513	4641961513	27.34220358	0.000384861
<b>Residual</b>	10	1697727654	169772765.4		
<b>Total</b>	11	6339689167			

	<b>Coefficients</b>	<b>Standard Error</b>	<b>t Stat</b>	<b>P-value</b>	<b>Lower 95%</b>	<b>Upper 95%</b>	<b>Lower 95.0%</b>	<b>Upper 95.0%</b>
<b>Intercept</b>	31886.02682	9098.883615	3.504388908	0.005684675	11612.45072	52159.60291	11612.45072	52159.60291
<b>Labour-hours</b>	9.452139604	1.807645944	5.228977297	0.000384861	5.424453445	13.47982576	5.424453445	13.47982576

@ Answer b) is incorrect. While the  $r^2$  is a reasonably high figure with 73% of the points falling close to the linear line, the standard error is extremely high. The P-value for the labour hours t stat is  $< 0.05$ , and the upper and lower 95% values are both positive, suggesting that as labour hours increase, so do overhead costs. The small sample size of 12 leads to a large standard error, suggesting that the results could be misleading. Thus, while there is a trend, it would be better to expand the data set before relying on this information. Answer c) is correct. The  $r^2$  shows a clear relationship between the two variables with 84% of the points falling close to the linear line, but the standard error is high, which is a cause for concern. The P-value for the number of units t stat is  $< 0.05$ , suggesting a significant cause-and-effect relationship, and the upper and lower 95% values are both positive. While this data set is the strongest provided, with a sample size of 12, the results could be misleading, so it is recommended that Growit expand its data set as the company obtains more information.

\*c. Monthly number of units produced and distribution costs

SUMMARY OUTPUT

<b>Regression Statistics</b>	
Multiple R	0.917265618
R Square	0.841376214
Adjusted R Square	0.825513835
Standard Error	4912.063706
Observations	12

ANOVA

	<b>df</b>	<b>SS</b>	<b>MS</b>	<b>F</b>	<b>Significance F</b>
<b>Regression</b>	1	1279822968	1279822968	53.0422476	2.65359E-05
<b>Residual</b>	10	241283698.6	24128369.86		
<b>Total</b>	11	1521106667			

	<b>Coefficients</b>	<b>Standard Error</b>	<b>t Stat</b>	<b>P-value</b>	<b>Lower 95%</b>	<b>Upper 95%</b>	<b>Lower 95.0%</b>	<b>Upper 95.0%</b>
<b>Intercept</b>	5187.720758	4043.535292	1.282966608	0.228440481	-3821.837324	14197.27884	-3821.837324	14197.27884
<b>Number of Units</b>	0.532926491	0.073173925	7.283010888	2.65359E-05	0.369884826	0.695968156	0.369884826	0.695968156

@ Answer c) is correct. The  $r^2$  shows a clear relationship between the two variables with 84% of the points falling close to the linear line, but the standard error is high, which is a cause for concern. The P-value for the number of units t stat is  $< 0.05$ , suggesting a significant cause-and-effect relationship, and the upper and lower 95% values are both positive. While this data set is the strongest provided, with a sample size of 12, the results could be misleading, so it is recommended that Growit expand its data set as the company obtains more information.

d. Monthly number of shipments and logistics costs

SUMMARY OUTPUT

<b>Regression Statistics</b>	
Multiple R	0.741157322
R Square	0.549314175
Adjusted R Square	0.504245593
Standard Error	8279.741616
Observations	12

ANOVA

	<b>df</b>	<b>SS</b>	<b>MS</b>	<b>F</b>	<b>Significance F</b>
<b>Regression</b>	1	835565454.4	835565454.4	12.18840588	0.005811441
<b>Residual</b>	10	685541212.3	68554121.23		
<b>Total</b>	11	1521106667			

	<b>Coefficients</b>	<b>Standard Error</b>	<b>t Stat</b>	<b>P-value</b>	<b>Lower 95%</b>	<b>Upper 95%</b>	<b>Lower 95.0%</b>	<b>Upper 95.0%</b>
<b>Intercept</b>	9073.11579	7195.257176	1.260985614	0.235938523	-6958.916275	25105.14785	-6958.916275	25105.14785
<b>Number of Shipments</b>	88.71220297	25.41030688	3.491189752	0.005811441	32.09451097	145.329895	32.09451097	145.329895

@ Answer d) is incorrect. While the  $r^2$  shows some relationship between the inputs, as 53% of the points are close to the linear line, the standard error is high. The P-value for the number of shipments t stat is  $< 0.05$ . The upper and lower 95% values are both positive, but represent a very wide spread due to the small sample size and large standard error. With a sample size of 12, the results could be misleading, so while there is a trend, it would be better to expand the data set before relying on this information.

Answer c) is correct. The  $r^2$  shows a clear relationship between the two variables with 84% of the points falling close to the linear line, but the standard error is high, which is a cause for concern. The P-value for the number of units t stat is  $< 0.05$ , suggesting a significant cause-and-effect relationship, and the upper and lower 95% values are both positive. While this data set is the strongest provided, with a sample size of 12, the results could be misleading, so it is recommended that Growit expand its data set as the company obtains more information.

29. Which of the following statements about transfer pricing is true?

a. Division managers favour cost-based transfer pricing because it typically yields an equitable share of profits.

@ Answer a) is incorrect. Cost-based pricing may not lead to the most equitable share of profits because there is little motivation to improve production efficiency. This is because costs are transferred to the buyer with a set markup so their margin is guaranteed. Answer c) is correct. A negotiated transfer price allows division managers to come to an agreeable price as if they were unrelated parties, thereby promoting autonomy among subunit managers. However, negotiation can be time-consuming, as in any business dealings with unrelated parties.

b. A cost-based transfer price typically leads to optimal decisions by both the internal seller and the internal buyer.

@ Answer b) is incorrect. A cost-based transfer price often encourages suboptimal decisions by either the internal seller or the internal buyer. This is because when the selling division has excess capacity, the company should purchase internally at cost plus markup, even if it can purchase the product for less than that from an external company, as it still benefits the company as a whole. It should be noted that if the company can buy it cheaper than cost externally, it should temporarily cease production and purchase it externally. Answer c) is correct. A negotiated transfer price allows division managers to come to an agreeable price as if they were unrelated parties, thereby promoting autonomy among subunit managers. However, negotiation can be time-consuming, as in any business dealings with unrelated parties.

\*c. A negotiated transfer price promotes autonomy among division managers, but it can be time-consuming.

@ Answer c) is correct. A negotiated transfer price allows division managers to come to an agreeable price as if they were unrelated parties, thereby promoting autonomy among subunit managers. However, negotiation can be time-consuming, as in any business dealings with unrelated parties.

d. Use of market-based transfer pricing motivates managers to deal with customers and suppliers in the external market.

@ Answer d) is incorrect. The use of market-based transfer pricing motivates managers to deal internally because they are no worse off than when dealing with external suppliers or customers. Answer c) is correct. A negotiated transfer price allows division managers to come to an agreeable price as if they were unrelated parties, thereby promoting autonomy among subunit managers. However, negotiation can be time-consuming, as in any business dealings with unrelated parties.

30. Bartok Motors Inc. operates as a decentralized multidivisional company. The Cantata Division purchases most of its motors from the Concerto Division.

The Concerto Division:

- has variable costs of \$620 per motor
- has sufficient excess capacity to satisfy the Cantata Division's motor requirements
- can sell motors to external customers for \$890

Which of the following statements BEST describes acceptable transfer pricing at Bartok Motors Inc.?

a. The minimum transfer price the Concerto Division is willing to accept on sales to the Cantata Division is \$620.

@ Answer a) is incorrect. It is not the only true statement. Answer a) is true because the Concerto Division is not operating at capacity so there is no opportunity cost. Answer c) is true because the Cantata Division can purchase the motors for \$890 in the market, and so this is the maximum transfer price the Cantata Division is willing to pay. Therefore, because answers a) and c) are both true statements, answer d) is the correct option.

b. The minimum transfer price the Concerto Division is willing to accept on sales to the Cantata Division is \$890.

@ Answer b) is incorrect. Because the Concerto Division has excess capacity, there is no opportunity cost for transferring the motors to the Cantata Division up to full capacity. Therefore, the Concerto Division would be willing to accept less than \$890. The minimum transfer price acceptable to them is the incremental costs for manufacturing the motors, or \$620 per motor. Answers a) and c) above are both true statements. And because the Cantata Division can purchase the motors for \$890 in the market, this is the maximum transfer price the Cantata Division is willing to pay. Therefore, because answers a) and c) are both true statements, answer d) is the correct option.

c. The maximum transfer price the Cantata Division is willing to pay on purchases from the Concerto Division is \$890.

@ Answer c) is incorrect. It is not the only true statement. Answer a) is true because the Concerto Division has excess capacity, and so there is no opportunity cost for transferring the motors to the Cantata Division up to full capacity. Thus, the minimum transfer price acceptable to the Concerto Division is the incremental costs for manufacturing the motors, or \$620 per motor. Answer c) is true because the Cantata Division would be willing to pay as much as market value, \$890, for the motor. Therefore, because answers a) and c) are both true statements, answer d) is the correct option.

\*d. Both a) and c) above.

@ Answer d) is correct. Answers a) and c) are both true statements. Because the Concerto Division has excess capacity, there is no opportunity cost for transferring the motors to the Cantata Division up to full capacity. Thus, the minimum transfer price acceptable to the Concerto Division is the incremental costs for manufacturing the motors, or \$620 per motor. The Cantata Division can purchase the motors for \$890 in the market, so this is the maximum transfer price the Cantata Division is willing to pay.

31. The customer service department of Conglomerate Co. provides services for several other divisions and to external customers. One of the internal customers is Online and Catalogue Sales (OCS). The OCS division recently received an offer from an external customer service company to provide services at a price of \$5.00 per customer service call.

The internal customer service department currently sells services to external customers for \$5.50 per call and has excess capacity. All of the customer service department costs are fixed, and the allocated costs per call are as follows:

Labour cost	\$2.00
Computer, telephone, and other office overhead	1.00
Total cost per call	\$3.00

Which of the following transfer prices would most likely lead to a suboptimal decision by the customer service department and/or the OCS division?

\*a. Market-based price of \$5.50 per call

@ Answer a) is correct. It would be in the best interests of the company as a whole to use internal services because the customer service department has excess capacity and the internal incremental cost per call is \$0.00. However, the OCS division has received an offer from an external company for \$5.00 per call, so it might be unwilling to purchase the customer services internally at \$5.50 per call.

b. Cost-based price of \$3.00 per call

@ Answer b) is incorrect. The OCS division would be willing to pay the full absorption cost of \$3.00 per call, which is less than the price from the external vendor. Answer a) is correct. It would be in the best interests of the company as a whole to use internal services because the customer service department has excess capacity and the internal incremental cost per call is \$0.00. However, the OCS division has received an offer from an external company for \$5.00 per call, so it might be unwilling to purchase the customer services internally at \$5.50 per call.

c. Cost-based price of \$0.00 per call

@ Answer c) is incorrect. OCS division would certainly be willing to pay the variable cost of \$0.00 per call. However, the customer service department would probably be unhappy about providing services at a transfer price of \$0.00 per call, even though this arrangement would allow it to use some of its excess capacity with no increase in cost. Answer a) is correct. It would be in the best interests of the company as a whole to use internal services because the customer service department has excess capacity, and the internal incremental cost per call is \$0.00. However, the OCS division has received an offer from an external company for \$5.00 per call, so it might be unwilling to purchase the customer services internally at \$5.50 per call.

d. Negotiated price of \$4.00 per call

@ Answer d) is incorrect. The OCS division would be willing to pay \$4.00 per call, which is less than the price from the external vendor. The customer service department would be willing to receive \$4.00 per call because this transfer price would allow it to earn an incremental profit of \$4.00 per call for the services provided. Answer a) is correct. It would be in the best interests of the company as a whole to use internal services because the customer service department has excess capacity and the internal incremental cost per call is \$0.00. However, the OCS division has received an offer from an external company for \$5.00 per call, so it might be unwilling to purchase the customer services internally at \$5.50 per call.

32. Which of the following statements about a company's transfer price is true?

a. It is the price charged externally by one subunit of an organization.

@ Answer a) is incorrect. A company's transfer price is the price charged *internally* by one subunit of an organization to another subunit. Answer d) is correct. Negotiated transfer prices are less likely to encourage suboptimal decisions compared to cost-based or market-based transfer prices.

b. It should include opportunity cost when there is excess capacity.

@ Answer b) is incorrect. Transfer prices should not consider opportunity cost when there is excess capacity, because the division should accept any price that is equal to or greater than variable cost. Answer d) is correct. Negotiated transfer prices are less likely to encourage suboptimal decisions compared to cost-based or market-based transfer prices.

c. It is a negotiated price where the seller sets the price.

@ Answer c) is incorrect. Under a negotiated transfer price, the seller and purchaser work together to come up with an internal transfer price. Answer d) is correct. Negotiated transfer prices are less likely to encourage suboptimal decisions compared to cost-based or market-based transfer prices.

\*d. It should discourage suboptimal decisions.

@ Answer d) is correct. Negotiated transfer prices are less likely to encourage suboptimal decisions compared to cost-based or market-based transfer prices.

33. The levelling and initial decrease in sales growth of a product take place in which stage of the product life cycle?

a. The decline stage

@ Answer a) is incorrect. In the decline stage, the overall level of sales declines, resulting in a negative growth rate.

Answer b) is correct. At the maturity stage, sales growth will begin to level off. The company will look to maximize cash flow from the product and achieve economies of scale. (Note that the question specified a decrease in sales growth — the flattening of the curve — and not a decrease in sales level.)

\*b. The maturity stage

@ Answer b) is correct. At the maturity stage, sales growth will begin to level off. The company will look to maximize cash flow from the product and achieve economies of scale. (Note that the question specified a decrease in sales growth — the flattening of the curve — and not a decrease in sales level.)

c. The growth stage

@ Answer c) is incorrect. In the growth stage, the market has accepted the product, and sales growth is steep relative to the other stages of the product life cycle.

Answer b) is correct. At the maturity stage, sales growth will begin to level off. The company will look to maximize cash flow from the product and achieve economies of scale. (Note that the question specified a decrease in sales growth — the flattening of the curve — and not a decrease in sales level.)

d. The product introduction stage

@ Answer d) is incorrect. In the introduction stage, product sales are the lowest and growth is slow until the market has accepted the product.

Answer b) is correct. At the maturity stage, sales growth will begin to level off. The company will look to maximize cash flow from the product and achieve economies of scale. (Note that the question specified a decrease in sales growth — the flattening of the curve — and not a decrease in sales level.)

34. Which of the following best describes a target-pricing approach?

\*a. Setting a price that focuses management on achieving a specific cost  
@ Answer a) is correct. This is the most appropriate description of target pricing.

b. Adding a desired markup to a predetermined cost to set a price  
@ Answer b) is incorrect. This is a description of cost-plus pricing.  
Answer a) is correct. This is the most appropriate description of target pricing.

c. Charging a low price to enter the marketplace  
@ Answer c) is incorrect. This is a demand-based or penetration-pricing strategy.  
Answer a) is correct. This is the most appropriate description of target pricing.

d. Charging a higher price during high-demand periods  
@ Answer d) is incorrect. This is a description of peak-load pricing.  
Answer a) is correct. This is the most appropriate description of target pricing.

35. ABC sells consumer electronics and personal computers. Each year, ABC is first to release an innovative tech gadget unparalleled by its competitors.

What is the best pricing strategy for ABC to maximize profits?

a. Penetration pricing

@ Answer a) is incorrect. Penetration pricing is used when a firm wants to increase market share. It does so by setting a low price. Products in the tech industry become obsolete very quickly. As new products are introduced annually, ABC will not want to produce a high volume of inventory needed to support the demand from a low price. Answer b) is correct. Skimming is a market-based pricing strategy. With this pricing strategy, the firm will set a high price with the goal of high profit margins on low volumes over low profit margins on high volumes. It is successful when there are early adopters of the technology with a low price sensitivity. The firm must capitalize immediately upon release of the product because of the short product life cycle.

\*b. Skimming

@ Answer b) is correct. Skimming is a market-based pricing strategy. With this pricing strategy, the firm will set a high price with the goal of high profit margins on low volumes over low profit margins on high volumes. It is successful when there are early adopters of the technology with a low price sensitivity. The firm must capitalize immediately upon release of the product because of the short product life cycle.

c. Full absorption cost

@ Answer c) is incorrect. Full absorption includes the variable and fixed costs over the life of the product but ignores competition. Although the product is currently the market leader, it will not take long for competitors to notice and introduce a similar product into the marketplace. The price of the product needs to adjust for the change in competition. Answer b) is correct. Skimming is a market-based pricing strategy. With this pricing strategy, the firm will set a high price with the goal of high profit margins on low volumes over low profit margins on high volumes. It is successful when there are early adopters of the technology with a low price sensitivity. The firm must capitalize immediately upon release of the product because of the short product life cycle.

d. Value-based pricing

@ Answer d) is incorrect. Value-based pricing would be appropriate if there were other firms releasing competitive products at the same time as ABC. Then ABC would need to consider how customers perceive the value of its product against its competitors' products when determining its pricing strategy.

Answer b) is correct. Skimming is a market-based pricing strategy. With this pricing strategy, the firm will set a high price with the goal of high profit margins on low volumes over low profit margins on high volumes. It is successful when there are early adopters of the technology with a low price sensitivity. The firm must capitalize immediately upon release of the product because of the short product life cycle.

36. Which of the following factors would be most relevant to a cost-based pricing strategy?

a. Price sensitivity

@ Answer a) is incorrect. Sensitivity of customers will determine whether a firm should employ a model of high volume with low price or low volume with high price.

Answer d) is correct. Product cost, research, marketing, and distribution are all important costs that influence pricing under a cost-based pricing strategy. Product cost markup is the formula applied to the product cost in a cost-based pricing strategy.

b. Industry structure

@ Answer b) is incorrect. Industry structure involves the number of other competitors. This will influence how much power a firm has in setting market prices.

Answer d) is correct. Product cost, research, marketing, and distribution are all important costs that influence pricing under a cost-based pricing strategy. Product cost markup is the formula applied to the product cost in a cost-based pricing strategy.

c. Product life cycle

@ Answer c) is incorrect. The life cycle of a product will influence the price that customers are willing to pay.

Answer d) is correct. Product cost, research, marketing, and distribution are all important costs that influence pricing under a cost-based pricing strategy. Product cost markup is the formula applied to the product cost in a cost-based pricing strategy.

\*d. Product cost markup

@ Answer d) is correct. Product cost, research, marketing, and distribution are all important costs that influence pricing under a cost-based pricing strategy. Product cost markup is the formula applied to the product cost in a cost-based pricing strategy.

37. ABC Ltd. produces widgets, and expected sales are as follows:

Month	Units
May	7,500
June	8,000
July	6,000

The company generally maintains an ending finished goods inventory volume of 15% of the next month's sales volume and keeps no work-in-process inventory. The widget sells for \$120 and the cost of production is \$80 per unit.

What will be the budgeted cost of goods manufactured for June?

\*a. \$616,000

@ Answer a) is correct. June cost of goods manufactured is calculated as follows:

Budgeted sales in units	8,000
+ Target ending inventory (15% × 6,000)	900
	8,900
– Beginning inventory (15% × 8,000)	1,200
Units to be produced	7,700
× Cost of production	\$80
Budgeted cost of goods manufactured	\$616,000

b. \$712,000

@ Answer b) is incorrect. It ignores beginning inventory. Answer a) is correct. June cost of goods manufactured is calculated as follows:

Budgeted sales in units	8,000
+ Target ending inventory (15% × 6,000)	900
	8,900
– Beginning inventory (15% × 8,000)	1,200
Units to be produced	7,700
× Cost of production	\$80
Budgeted cost of goods manufactured	\$616,000

c. \$544,000

@ Answer c) is incorrect. It ignores ending inventory. Answer a) is correct. June cost of goods manufactured is calculated as follows:

Budgeted sales in units	8,000
+ Target ending inventory (15% × 6,000)	<u>900</u>
	8,900
– Beginning inventory (15% × 8,000)	<u>1,200</u>
Units to be produced	7,700
× Cost of production	<u>\$80</u>
Budgeted cost of goods manufactured	\$616,000

d. \$640,000

@ Answer d) is incorrect. In calculating the budgeted cost of goods manufactured during the month of June, one has to take into consideration the inventory requirements. In this context, omitting ending inventory and beginning inventory results in calculating the monthly cost of goods sold. Answer a) is correct. June cost of goods manufactured is calculated as follows:

Budgeted sales in units	8,000
+ Target ending inventory (15% × 6,000)	<u>900</u>
	8,900
– Beginning inventory (15% × 8,000)	<u>1,200</u>
Units to be produced	7,700
× Cost of production	<u>\$80</u>
Budgeted cost of goods manufactured	\$616,000

38. Pro forma financial statements are used for which of the following?

a. To show what the financial results will be if targets set by a company are achieved  
@ Answer a) is incorrect. This describes a budget and not a pro forma statement.  
Answer c) is correct. Pro forma statements are used to assess the impact on financial results due to specific changes or events.

b. To show the financial results that a company will likely achieve  
@ Answer b) is incorrect. This describes a forecast and not a pro forma statement.  
Answer c) is correct. Pro forma statements are used to assess the impact on financial results due to specific changes or events.

\*c. To show the financial results of a change or event for a company  
@ Answer c) is correct. Pro forma statements are used to assess the impact on financial results due to specific changes or events.

d. To show a retrospective analysis of a company's past performance  
@ Answer d) is incorrect. Pro forma statements are prospective in nature. Answer c) is correct. Pro forma statements are used to assess the impact on financial results due to specific changes or events.

39. Which of the following is a limitation of a pro forma statement?

a. Pro forma statements are only prepared for one year.

@ Answer a) is incorrect. Pro forma statements may be prepared for as many years as required and are not limited to just one year. Answer d) is correct. As with any estimates, the risk is that the assumptions used to prepare the pro forma statements could be unrealistic and result in a wrong decision if these statements are relied upon.

b. Pro forma statements only focus on the income statement.

@ Answer b) is incorrect. Pro forma statements can include the income statement, balance sheet, and cash flow statement. Answer d) is correct. As with any estimates, the risk is that the assumptions used to prepare the pro forma statements could be unrealistic and result in a wrong decision if these statements are relied upon.

c. Pro forma statements must align with the expectations stated in the budget.

@ Answer c) is incorrect. The purpose of a pro forma statement is to highlight differences from the budget. Answer d) is correct. As with any estimates, the risk is that the assumptions used to prepare the pro forma statements could be unrealistic and result in a wrong decision if these statements are relied upon.

\*d. Pro forma statements require assumptions to be made about a planned transaction or strategy that may or may not be realistic.

@ Answer d) is correct. As with any estimates, the risk is that the assumptions used to prepare the pro forma statements could be unrealistic and result in a wrong decision if these statements are relied upon.

40. Which of the following statements is true?

a. A forecast represents the company's plan, and a pro forma statement captures assumptions for a significant event.

@ Answer a) is incorrect. A forecast is a current forward-looking projection of the company's expected outcomes. Answer c) is correct. A budget contains the company's planned outcomes, whereas a forecast is a current forward-looking projection of the company's expected outcomes, which considers actual results and current trends.

b. A budget represents the company's plan, and a forecast captures assumptions for a significant event.

@ Answer b) is incorrect. A forecast is a current forward-looking projection of the company's expected outcomes. Answer c) is correct. A budget contains the company's planned outcomes, whereas a forecast is a current forward-looking projection of the company's expected outcomes, which considers actual results and current trends.

\*c. A budget represents the company's plan, and a forecast describes the expected outcomes.

@ Answer c) is correct. A budget contains the company's planned outcomes, whereas a forecast is a current forward-looking projection of the company's expected outcomes, which considers actual results and current trends.

d. A budget describes the expected outcomes, and a forecast represents the company's plan.

@ Answer d) is incorrect. A budget represents the company's plan, and the forecast describes the expected outcomes. Answer c) is correct. A budget contains the company's planned outcomes, whereas a forecast is a current forward-looking projection of the company's expected outcomes, which considers actual results and current trends.

41. What is the basic difference between a static budget and a flexible budget?

a. A static budget is based on rigid goals, whereas a flexible budget allows management latitude in meeting goals.

@ Answer a) is incorrect. The difference between static and flexible budgets is not influenced by the rigidity or latitude in meeting goals. Answer d) is correct. The static budget is based on one level of output and is not adjusted after it is finished, regardless of changes in output or input prices, quantities, or costs. The flexible budget can be adjusted to the actual level of output achieved or expected to be achieved during the budget period.

b. A static budget is for an entire organization, whereas a flexible budget is applicable to individual departments.

@ Answer b) is incorrect. Both can be applied to an entire organization and its subunits. Answer d) is correct. The static budget is based on one level of output and is not adjusted after it is finished, regardless of changes in output or input prices, quantities, or costs. The flexible budget can be adjusted to the actual level of output achieved or expected to be achieved during the budget period.

c. A static budget is based on standard costing, whereas a flexible budget is based on absorption costing.

@ Answer c) is incorrect. Both types of budget can use standard and/or absorption costing. Answer d) is correct. The static budget is based on one level of output and is not adjusted after it is finished, regardless of changes in output or input prices, quantities, or costs. The flexible budget can be adjusted to the actual level of output achieved or expected to be achieved during the budget period.

\*d. A static budget is based on one level of output, whereas a flexible budget can be adjusted for any level of output within the relevant range.

@ Answer d) is correct. The static budget is based on one level of output and is not adjusted after it is finished, regardless of changes in output or input prices, quantities, or costs. The flexible budget can be adjusted to the actual level of output achieved or expected to be achieved during the budget period.

42. Kelowna Sun is a fruit juice company. Management is concerned about the fruit crops this year, as an invasive moth could significantly damage the fruit before maturity. Management expects that Kelowna Sun's fruit costs (cost of goods sold) will increase by 74% if this moth is found in the company's crop. Management wants to take a proactive approach and will spend \$30,000 to spray the crops, although there is no guarantee that this will eliminate all of the moths and prevent the damage. If the moth is found after the initial spraying, Kelowna Sun will have to hire a pest-control consultant at a cost of \$60,000.

Kelowna Sun's budgeted income statement is provided below:

### **Kelowna Sun Budget Operating profit**

Revenue		\$1,893,100
Cost of goods sold		<u>962,300</u>
Gross margin		\$ 930,800

### Expenses

Advertising	\$132,000	
Consulting	50,000	
Pest control		
Rent	84,100	
Wages	<u>344,600</u>	<u>610,700</u>

Operating profit		<u>\$ 320,100</u>
------------------	--	-------------------

What is the pro forma operating profit for Kelowna Sun, assuming moths are found after the initial spray?

\*a. (\$482,002)

@ Answer a) is correct.

### **Kelowna Sun Pro forma Operating profit**

Revenue		\$1,893,100
Cost of goods sold		<u>1,674,402</u> <i>Increase by 74%</i>
Gross margin		\$ 218,698

### Expenses

Advertising	\$132,000	
Consulting	50,000	
Pest control	90,000	<i>Increase by \$30,000 to spray and \$60,000 for pest control</i>
Rent	84,100	
Wages	<u>344,600</u>	<u>700,700</u>
Operating profit		<u>(\$482,002)</u>

b. (\$432,002)

@ Answer b) is incorrect. This excludes \$50,000 in consulting costs, which should still be included. Answer a) is correct.

**Kelowna Sun Pro forma Operating profit**

Revenue		\$1,893,100	
Cost of goods sold		<u>1,674,402</u>	<i>Increase by 74%</i>
Gross margin		\$ 218,698	

## Expenses

Advertising	\$132,000		
Consulting	50,000		
Pest control	90,000		<i>Increase by \$30,000 to spray and \$60,000 for pest control</i>
Rent	84,100		
Wages	<u>344,600</u>	<u>700,700</u>	

Operating profit (\$482,002)

c. (\$422,002)

@ Answer c) is incorrect. The \$60,000 for pest control going forward was not included. Answer a) is correct.

**Kelowna Sun Pro forma Operating profit**

Revenue		\$1,893,100	
Cost of goods sold		<u>1,674,402</u>	<i>Increase by 74%</i>
Gross margin		\$ 218,698	

## Expenses

Advertising	\$132,000		
Consulting	50,000		
Pest control	90,000		<i>Increase by \$30,000 to spray and \$60,000 for pest control</i>
Rent	84,100		
Wages	<u>344,600</u>	<u>700,700</u>	

Operating profit (\$482,002)

d. (\$392,002)

@ Answer d) is incorrect. The \$60,000 for pest control and \$30,000 for spraying were not included. Answer a) is correct.

**Kelowna Sun Pro forma Operating profit**

Revenue		\$1,893,100	
Cost of goods sold		<u>1,674,402</u>	<i>Increase by 74%</i>
Gross margin		\$ 218,698	

Expenses

Advertising	\$132,000		
Consulting	50,000		
Pest control	90,000		<i>Increase by \$30,000 to spray and \$60,000 for pest control</i>
Rent	84,100		
Wages	<u>344,600</u>	<u>700,700</u>	

Operating profit (\$482,002)

43. Acme Beds Inc. produces two models of beds: Regular and Majestic. Budget and actual data are as follows:

	Static budget		Actual	
	Regular	Majestic	Regular	Majestic
Selling price per unit	\$300	\$800	\$325	\$825
Sales volume in units	4,500	5,500	4,500	5,200
Production volume in units	4,500	5,500	4,500	5,200
Variable costs per unit	\$220	\$590	\$218	\$583
Fixed cost (overall)	\$882,500		\$919,500	

What is the result of the variable cost and the fixed overhead variances for Acme Beds?

a. Variable cost flexible budget variance is unfavourable and fixed overhead spending variance is favourable.

@ Answer a) is incorrect. The variable cost flexible budget variance is favourable and the fixed overhead spending variance is unfavourable.

Answer b) is correct.

Variable cost flexible budget variance: (Actual – Budgeted variable costs per unit) × Actual number of units produced, summed over both products

Regular beds:  $(\$218 - \$220) \times 4,500 = \$9,000 \text{ F}$

Majestic beds:  $(\$583 - \$590) \times 5,200 = \$36,400 \text{ F}$

Total variable cost flexible budget variance:  $\$9,000\text{F} + \$36,400\text{F} = 45,400 \text{ F}$

Fixed overhead spending variance: Actual – Budgeted fixed costs

$\$919,500 - \$882,500 = \$37,000 \text{ U}$

\*b. Variable cost flexible budget variance is favourable and fixed overhead spending variance is unfavourable.

@ Answer b) is correct.

Variable cost flexible budget variance: (Actual – Budgeted variable costs per unit) × Actual number of units produced, summed over both products

Regular beds:  $(\$218 - \$220) \times 4,500 = \$9,000 \text{ F}$

Majestic beds:  $(\$583 - \$590) \times 5,200 = \$36,400 \text{ F}$

Total variable cost flexible budget variance:  $\$9,000\text{F} + \$36,400\text{F} = 45,400 \text{ F}$

Fixed overhead spending variance: Actual – Budgeted fixed costs

$\$919,500 - \$882,500 = \$37,000 \text{ U}$

c. Variable cost flexible budget variance is favourable and fixed overhead spending variance is favourable.

@ Answer c) is incorrect. The fixed overhead spending variance is unfavourable.

Answer b) is correct.

Variable cost flexible budget variance: (Actual – Budgeted variable costs per unit) × Actual number of units produced, summed over both products

Regular beds:  $(\$218 - \$220) \times 4,500 = \$9,000 \text{ F}$

Majestic beds:  $(\$583 - \$590) \times 5,200 = \$36,400 \text{ F}$

Total variable cost flexible budget variance:  $\$9,000\text{F} + \$36,400\text{F} = 45,400 \text{ F}$

Fixed overhead spending variance: Actual – Budgeted fixed costs

$\$919,500 - \$882,500 = \$37,000 \text{ U}$

d. Variable cost flexible budget variance is unfavourable and fixed overhead spending variance is unfavourable.

@ Answer d) is incorrect. The variable cost flexible budget variance is favourable.

Answer b) is correct.

Variable cost flexible budget variance: (Actual – Budgeted variable costs per unit) × Actual number of units produced, summed over both products

Regular beds:  $(\$218 - \$220) \times 4,500 = \$9,000 \text{ F}$

Majestic beds:  $(\$583 - \$590) \times 5,200 = \$36,400 \text{ F}$

Total variable cost flexible budget variance:  $\$9,000\text{F} + \$36,400\text{F} = 45,400 \text{ F}$

Fixed overhead spending variance: Actual – Budgeted fixed costs

$\$919,500 - \$882,500 = \$37,000 \text{ U}$

44. Which of the following is the most appropriate explanation for a company that experienced a favourable material price/rate variance and an unfavourable material quantity/efficiency variance?

a. Materials were purchased at a discount and workers were well trained.

@ Answer a) is incorrect. A discount in the price and more-productive workers would result in a favourable price/rate and quantity/efficiency variance.

Answer d) is correct. If lower-grade materials resulted in excessive waste, then more materials were used than anticipated. Materials purchased at a discount would explain a favourable price/rate variance.

b. The price of materials has decreased and demand for the product has decreased.

@ Answer b) is incorrect. A decrease in the price of materials and a decrease in demand would result in a favourable price/rate variance but would not explain an unfavourable quantity/efficiency variance.

Answer d) is correct. If lower-grade materials resulted in excessive waste, then more materials were used than anticipated. Materials purchased at a discount would explain a favourable price/rate variance.

c. The actual quantity of materials purchased was less than the estimated budgeted amount.

@ Answer c) is incorrect. The price/rate variance relates to price paid, and the quantity/efficiency variance relates to quantity used. This explanation doesn't adequately address either variance.

Answer d) is correct. If lower-grade materials resulted in excessive waste, then more materials were used than anticipated. Materials purchased at a discount would explain a favourable price/rate variance.

\*d. Lower-quality materials that resulted in excessive waste were purchased at a discount.

@ Answer d) is correct. If lower-grade materials resulted in excessive waste, then more materials were used than anticipated. Materials purchased at a discount would explain a favourable price/rate variance.

45. A company's reward system is most effective at achieving the desired business outcomes if it does which of the following?

a. It links incentives to factors that go beyond the strategic plan.

@ Answer a) is incorrect. Rewards should be tightly linked to achieving only those performance targets in the strategic plan. Including factors outside of the strategic plan signals that either the strategic plan is incomplete or that management's real agenda is something other than what was stated in the strategic plan. Answer b) is correct. When used properly, money is a great motivator, but there are potential advantages to be gained from praise, special recognition, handing out plum assignments, and so on. As well, basing rewards on both individual performance and corporate performance provides individual motivation and aligns the rewards to achieving desired business outcomes.

\*b. It includes both monetary and non-monetary rewards linked to both individual and corporate performance.

@ Answer b) is correct. When used properly, money is a great motivator, but there are potential advantages to be gained from praise, special recognition, handing out plum assignments, and so on. As well, basing rewards on both individual performance and corporate performance provides individual motivation and aligns the rewards to achieving desired business outcomes.

c. It bases the incentives and rewards of all employees on achieving departmental annual objectives.

@ Answer c) is incorrect. An incentive plan should be linked to both short-term (for example, annual) and long-term performance targets, which should be tied to both individual and overall corporate performance. Answer b) is correct. When used properly, money is a great motivator, but there are potential advantages to be gained from praise, special recognition, handing out plum assignments, and so on. As well, basing rewards on both individual performance and corporate performance provides individual motivation and aligns the rewards to achieving desired business outcomes.

d. It is closely tied to the growth of the company's stock price.

@ Answer d) is incorrect. A reward system solely based on the company's stock price is one-dimensional and might induce behaviour focused on short-term objectives. Answer b) is correct. When used properly, money is a great motivator, but there are potential advantages to be gained from praise, special recognition, handing out plum assignments, and so on. As well, basing rewards on both individual performance and corporate performance provides individual motivation and aligns the rewards to achieving desired business outcomes.

46. Measuring individual performance using both financial and non-financial measures is crucial to accomplish which of the following?

a. Ensuring compliance with the company's pre-established plan

@ Answer a) is incorrect. Measurements are intended to communicate, inform, and teach, not to ensure compliance, which is more related to control. Answer d) is correct. Using both financial and non-financial measures informs the employee about the drivers of current and future success, which helps align the employee goals with the company mission and strategy.

b. Demonstrating the importance of financial measures

@ Answer b) is incorrect. Financial measures are a critical measurement of performance. However, an integrated set of measurements that include non-financial measures links the customer, internal processes, and employee performance to long-term financial success. Including non-financial measures ensures a comprehensive assessment of performance. Answer d) is correct. Using both financial and non-financial measures informs the employee about the drivers of current and future success, which helps align the employee goals with the company mission and strategy.

c. Ensuring that employees exercise full control over the performance measures

@ Answer c) is incorrect. Although ensuring that employees exercise some degree of control over the measures is crucial for employee motivation, including financial and non-financial measures in a performance measurement system provides no guarantee that the employees will exercise full control over the measures. Answer d) is correct. Using both financial and non-financial measures informs the employee about the drivers of current and future success, which helps align the employee goals with the company mission and strategy.

\*d. Better aligning individual goals with the company objectives and strategies

@ Answer d) is correct. Using both financial and non-financial measures informs the employee about the drivers of current and future success, which helps align the employee goals with the company mission and strategy.

47. Mary is the manager of Division A, which makes widgets. Division A is classified as a cost centre. Which of the following would be the most appropriate performance measurement for Mary?

a. Residual income of Division A

@ Answer a) is incorrect. As Mary is not responsible for sales, residual income is not a meaningful measurement. Answer b) is correct. A cost centre manager is responsible for controlling and reporting costs only. Direct material costs would be a typical cost that needs to be monitored and controlled.

\*b. Direct material costs of the widgets

@ Answer b) is correct. A cost centre manager is responsible for controlling and reporting costs only. Direct material costs would be a typical cost that needs to be monitored and controlled.

c. Gross margin of the widgets

@ Answer c) is incorrect. As Mary is not responsible for sales, gross margin is not a meaningful measurement. Answer b) is correct. A cost centre manager is responsible for controlling and reporting costs only. Direct material costs would be a typical cost that needs to be monitored and controlled.

d. Return on assets of Division A

@ Answer d) is incorrect. This is not a reasonable measurement because Mary does not control investment. Answer b) is correct. A cost centre manager is responsible for controlling and reporting costs only. Direct material costs would be a typical cost that needs to be monitored and controlled.

48. An electrician is working on a new building alongside various other tradespeople and is paid an individual bonus based on the number of fixtures installed within a specified period of time. Which of the following is the primary benefit of including this incentive based on individual performance?

\*a. Improved individual output

@ Answer a) is correct. Individual incentives encourage employees to exceed the standard in order to achieve their bonus. This leads to improved output.

b. Increased cooperation among employees

@ Answer b) is incorrect. Individual incentives lead to the pursuit of individual goals and away from improved teamwork/cooperation. Answer a) is correct. Individual incentives encourage employees to exceed the standard in order to achieve their bonus. This leads to improved output.

c. Higher quality of installation

@ Answer c) is incorrect. Given a prescribed period of time to complete the task, the electrician is under time constraints, which may lead to cutting corners in order to meet the time constraints and achieve the incentive. Answer a) is correct. Individual incentives encourage employees to exceed the standard in order to achieve their bonus. This leads to improved output.

d. Less risk imposed on the employee

@ Answer d) is incorrect. Including a variable component such as a bonus in the compensation imposes more risk on the employee and less risk on the employer. Answer a) is correct. Individual incentives encourage employees to exceed the standard in order to achieve their bonus. This leads to improved output.

49. In which of the four balanced scorecard perspectives would “increase employee morale” likely appear as a goal?

a. Financial

@ Answer a) is incorrect. Answer d) is correct. Because learning and growth focuses on skills and development, which include corporate culture, increasing employee morale would be found in the learning and growth perspective.

b. Internal business process

@ Answer b) is incorrect. Answer d) is correct. Because learning and growth focuses on skills and development, which include corporate culture, increasing employee morale would be found in the learning and growth perspective.

c. Customer

@ Answer c) is incorrect. Answer d) is correct. Because learning and growth focuses on skills and development, which include corporate culture, increasing employee morale would be found in the learning and growth perspective.

\*d. Learning and growth

@ Answer d) is correct. Because learning and growth focuses on skills and development, which include corporate culture, increasing employee morale would be found in the learning and growth perspective.

50. The James Company requires 22,223 units to be sold to break even. The sales price per unit is \$10 and variable costs per unit are \$5.50. How much were the total fixed costs for this company?

\*a. \$100,004

@ Answer a) is correct. At the break-even point, the expected profit is zero:  $22,223 \times (\$10 - \$5.50) - \text{Fixed cost} = \$0$ . Therefore, fixed cost =  $22,223 \times (\$10 - \$5.50) = \$100,004$ .

b. \$122,227

@ Answer b) is incorrect. This answer calculated the variable cost for the break-even number of units as  $22,223 \times \$5.50$ . Answer a) is correct. At the break-even point, the expected profit is zero:  $22,223 \times (\$10 - \$5.50) - \text{Fixed cost} = \$0$ . Therefore, fixed cost =  $22,223 \times (\$10 - \$5.50) = \$100,004$ .

c. \$222,230

@ Answer c) is incorrect. This answer calculated the total sales amount as  $22,223 \times \$10$ . Answer a) is correct. At the break-even point, the expected profit is zero:  $22,223 \times (\$10 - \$5.50) - \text{Fixed cost} = \$0$ . Therefore, fixed cost =  $22,223 \times (\$10 - \$5.50) = \$100,004$ .

d. \$111,115

@ Answer d) is incorrect. This answer divides the sales price in half and multiplies by the number of units sold. Answer a) is correct. At the break-even point, the expected profit is zero:  $22,223 \times (\$10 - \$5.50) - \text{Fixed cost} = \$0$ . Therefore, fixed cost =  $22,223 \times (\$10 - \$5.50) = \$100,004$ .

51. MoneyCo, an e-bank that prides itself on offering great customer service, is reviewing the measures of its balanced scorecard. Under internal business process, which one of the following measures would be a good fit?

\*a. Website maintenance downtime

@ Answer a) is correct. Because MoneyCo is an e-bank, ensuring that the website is consistently available is critical to pleasing customers. The website should be serviced to have minimal downtime.

b. Employee training hours

@ Answer b) is incorrect. While employee training hours would be good for MoneyCo to measure, it would be captured in the learning and growth perspective. Answer a) is correct. Because MoneyCo is an e-bank, ensuring that the website is consistently available is critical to pleasing customers. The website should be serviced to have minimal downtime.

c. Supplier satisfaction

@ Answer c) is incorrect. While supplier satisfaction is important for any business, there is no indication that this is a key focus for MoneyCo. Answer a) is correct. Because MoneyCo is an e-bank, ensuring that the website is consistently available is critical to pleasing customers. The website should be serviced to have minimal downtime.

d. Client retention

@ Answer d) is incorrect. Client retention is very important for MoneyCo, but this would fall under the customer perspective. Answer a) is correct. Because MoneyCo is an e-bank, ensuring that the website is consistently available is critical to pleasing customers. The website should be serviced to have minimal downtime.

52. Farm Table is a not-for-profit organization that supports local farmers by hosting galas in different communities within the region. The meal at each gala is prepared by a local chef and highlights the local produce, meats, and cheeses of the host community. Farm Table's mandate is to put a spotlight on the goods offered in the community, and any net proceeds from these events go into advertising for the local farmers. The organization is supported by proceeds raised from galas and external donations. Farm Table is interested in implementing a balanced scorecard to ensure it is headed toward success. Which of the following is the best measure for Farm Table to implement?

a. Effective utilization of volunteers

@ Answer a) is incorrect. While volunteers are critical for any not-for-profit, there is no indication that this is a key focus for Farm Table or that Farm Table uses volunteers at all. Answer b) is correct. As Farm Table has a very specific goal of advertising local farmers, donors should be able to notice an impact of the events; to keep donors engaged, Farm Table must demonstrate progress toward this goal.

\*b. Funds raised spent on their intended purpose

@ Answer b) is correct. As Farm Table has a very specific goal of advertising local farmers, donors should be able to notice an impact of the events; to keep donors engaged, Farm Table must demonstrate progress toward this goal.

c. Reduced spending on marketing to minimize administrative costs

@ Answer c) is incorrect. Since Farm Table is engaged in promoting local farmers, marketing costs may be an important expenditure that the organization would not want to minimize. Answer b) is correct. As Farm Table has a very specific goal of advertising local farmers, donors should be able to notice an impact of the events; to keep donors engaged, Farm Table must demonstrate progress toward this goal.

d. Launch of new programs

@ Answer d) is incorrect. Farm Table does not have plans to expand its programs. With many not-for-profits, diversification is not a goal because they need to ensure their existing donors/clients are satisfied. Answer b) is correct. As Farm Table has a very specific goal of advertising local farmers, donors should be able to notice an impact of the events; to keep donors engaged, Farm Table must demonstrate progress toward this goal.

53. Which of the following is a likely result when a company encounters a data breach?

a. No impact to the company because those affected will not be notified

@ Answer a) is incorrect. Canadian law mandates that both the affected individuals and the Privacy Commissioner be notified of a data breach. Answer b) is correct because net company profits are likely to decrease due to both the lawsuits brought by those affected by the breach as well as lost future revenues resulting from a decrease in consumer confidence.

\*b. Decrease in net profits

@ Answer b) is correct. Net company profits are likely to decrease due to both the lawsuits brought by those affected by the breach as well as lost future revenues resulting from a decrease in consumer confidence.

c. Decrease in lawsuits

@ Answer c) is incorrect. Lawsuits would likely increase from a data breach. Answer b) is correct because net company profits are likely to decrease due to both the lawsuits brought by those affected by the breach as well as lost future revenues resulting from a decrease in consumer confidence.

d. Decrease in expenses

@ Answer d) is incorrect. Expenses are likely to increase as a result of a data breach from subsequent settlements to impacted parties and costs to avoid future breaches. Answer b) is correct because net company profits are likely to decrease due to both the lawsuits brought by those affected by the breach as well as lost future revenues resulting from a decrease in consumer confidence.

54. HWW Inc. has a job-order costing system. The company uses predetermined overhead rates (POHRs) in applying manufacturing overhead costs to individual jobs. The POHR in Department A is based on machine hours, and the rate in Department B is based on direct materials cost. HWW has the following estimates for the year:

	A	B
Machine hours	50,000	68,000
Direct labour hours	45,000	60,000
Direct materials cost	\$250,000	\$220,000
Direct labour cost	\$300,000	\$280,000
Manufacturing overhead cost	\$395,000	\$455,000

Job 201 was completed on May 31 with the following cost information:

	A	B
Machine hours	500	550
Direct materials cost	\$27,000	\$20,000
Direct labour cost	\$31,000	\$32,000

Assume the POHR for Department A is \$8 and the POHR for Department B is 2.15. What is the total cost applied to job 201?

a. \$172,450

@ Answer a) is incorrect. It applies Department A's POHR to Department B and Department B's POHR to Department A. Answer b) is correct.

Department A overhead: $\$8 \times 500$	\$ 4,000
Department B overhead: $2.15 \times \$20,000$	43,000
Direct materials: $\$27,000 + \$20,000$	47,000
Direct labour cost: $\$31,000 + \$32,000$	63,000
Total cost	\$157,000

\*b. \$157,000

@ Answer b) is correct.

Department A overhead: $\$8 \times 500$	\$ 4,000
Department B overhead: $2.15 \times \$20,000$	43,000
Direct materials: $\$27,000 + \$20,000$	47,000
Direct labour cost: $\$31,000 + \$32,000$	63,000
Total cost	\$157,000

c. \$118,400

@ Answer c) is incorrect. It uses machine hours for both departments. Answer b) is correct.

Department A overhead: $\$8 \times 500$	\$ 4,000
Department B overhead: $2.15 \times \$20,000$	43,000
Direct materials: $\$27,000 + \$20,000$	47,000
Direct labour cost: $\$31,000 + \$32,000$	<u>63,000</u>
Total cost	\$157,000

d. \$105,000

It omits direct materials and labour for Department B. Answer b) is correct.

Department A overhead: $\$8 \times 500$	\$ 4,000
Department B overhead: $2.15 \times \$20,000$	43,000
Direct materials: $\$27,000 + \$20,000$	47,000
Direct labour cost: $\$31,000 + \$32,000$	<u>63,000</u>
Total cost	\$157,000

55. Given the following information for the manufacturing operations of REW Ltd. what is the cost of goods manufactured for the year?

	Opening inventory January 1	Ending inventory December 31
Direct materials	\$260,000	\$235,000
WIP	\$95,000	\$75,000
Finished goods	\$350,000	\$360,000

Direct materials purchased	\$350,000
Direct labour payroll	\$160,000
Direct labour hours	6,500
Factory overhead rate per direct labour hour (DLH)	\$10

a. \$600,000

@ Answer a) is incorrect. It ignores the change in work-in-process. Answer d) is correct.

Direct materials used ( $\$260,000 - \$235,000 + \$350,000$ )	\$375,000
Direct labour used	160,000
Factory overhead applied ( $6,500 \times \$10$ per DLH)	<u>65,000</u>
Total manufacturing costs incurred	600,000
WIP inventory, January 1	95,000
WIP inventory, December 31	<u>(75,000)</u>
Cost of goods manufactured	<u>\$620,000</u>

b. \$595,000

@ Answer b) is incorrect. It ignores the change in direct material inventories. Answer d) is correct.

Direct materials used ( $\$260,000 - \$235,000 + \$350,000$ )	\$375,000
Direct labour used	160,000
Factory overhead applied ( $6,500 \times \$10$ per DLH)	<u>65,000</u>
Total manufacturing costs incurred	600,000
WIP inventory, January 1	95,000
WIP inventory, December 31	<u>(75,000)</u>
Cost of goods manufactured	<u>\$620,000</u>

c. \$555,000

@ Answer c) is incorrect. It does not apply factory overhead. Answer d) is correct.

Direct materials used ( $\$260,000 - \$235,000 + \$350,000$ )	\$375,000
Direct labour used	160,000
Factory overhead applied ( $6,500 \times \$10$ per DLH)	<u>65,000</u>
Total manufacturing costs incurred	600,000
WIP inventory, January 1	95,000
WIP inventory, December 31	<u>(75,000)</u>
Cost of goods manufactured	<u>\$620,000</u>

\*d. \$620,000

@ Answer d) is correct.

Direct materials used ( $\$260,000 - \$235,000 + \$350,000$ )	\$375,000
Direct labour used	160,000
Factory overhead applied ( $6,500 \times \$10$ per DLH)	<u>65,000</u>
Total manufacturing costs incurred	600,000
WIP inventory, January 1	95,000
WIP inventory, December 31	<u>(75,000)</u>
Cost of goods manufactured	<u>\$620,000</u>

56. Ink-it produces two high-end executive-focused pens. The first model, the “Office Buddy,” is designed for office use with a desktop penholder, while the other model, the “Travel Buddy,” is geared toward on-the-road executives, as it is lightweight and can go through airport security without issues. Data regarding the two model lines are shown below:

	Office Buddy	Travel Buddy
Expected production	35,000	115,000
Direct materials cost	\$17.00	\$9.25
Direct labour cost	\$3.75	\$4.10

Ink-it is considering implementing an activity-based costing system in its facility and has identified three primary activities:

	Office Buddy	Travel Buddy	Budgeted overhead cost
Assembly	3,000 labour hours	4,100 labour hours	\$110,000
Quality assurance	190 inspection hours	150 inspection hours	\$370,000
Packaging	125 boxes	265 boxes	\$34,000

What is the overhead cost per unit for the Office Buddy pens?

a. \$28.30

@ Answer a) is incorrect. The direct materials and direct labour are not part of overhead. Answer c) is correct. You need to multiply the activity rate by the driver of that activity on a per-product basis.

Activity	Budgeted overhead cost	Budgeted cost driver	Activity rate
Assembly	\$110,000	7,100 labour hours	\$15.49 per labour hour
Quality assurance	\$370,000	340 inspection hours	\$1,088.24 per inspection hour
Packaging	\$34,000	390 boxes	\$87.179 per box

	Office Buddy
Assembly: $3,000 \times \$15.493$	\$46,479
Quality assurance: $190 \times \$1,088.235$	206,765
Packaging: $125 \times \$87.179$	<u>10,897</u>
Total allocated overhead	\$264,141
Number of units produced	<u>35,000</u>
Per-unit overhead cost	\$7.55

b. \$14.69

@ Answer b) is incorrect. Adding up the budgeted costs and dividing them by the Office Buddy units produced won't attribute them on a line-by-line basis to the correct product. Answer c) is correct. You need to multiply the activity rate by the driver of that activity on a per-product basis.

Activity	Budgeted overhead cost	Budgeted cost driver	Activity rate
Assembly	\$110,000	7,100 labour hours	\$15.49 per labour hour
Quality assurance	\$370,000	340 inspection hours	\$1,088.24 per inspection hour
Packaging	\$34,000	390 boxes	\$87.179 per box

	Office Buddy
Assembly: $3,000 \times \$15.493$	\$46,479
Quality assurance: $190 \times \$1,088.235$	206,765
Packaging: $125 \times \$87.179$	<u>10,897</u>
Total allocated overhead	\$264,141
Number of units produced	<u>35,000</u>
Per-unit overhead cost	\$7.55

\*c. \$7.55

@ Answer c) is correct. You need to multiply the activity rate by the driver of that activity on a per-product basis.

Activity	Budgeted overhead cost	Budgeted cost driver	Activity rate
Assembly	\$110,000	7,100 labour hours	\$15.49 per labour hour
Quality assurance	\$370,000	340 inspection hours	\$1,088.24 per inspection hour
Packaging	\$34,000	390 boxes	\$87.179 per box

	Office Buddy
Assembly: $3,000 \times \$15.493$	\$46,479
Quality assurance: $190 \times \$1,088.235$	206,765
Packaging: $125 \times \$87.179$	<u>10,897</u>
Total allocated overhead	\$264,141
Number of units produced	<u>35,000</u>
Per-unit overhead cost	\$7.55

d. \$3.42

@ Answer d) is incorrect. Adding up the budgeted costs and dividing them by the total units produced won't attribute them on a line-by-line basis to the correct product. Answer c) is correct. You need to multiply the activity rate by the driver of that activity on a per-product basis.

<b>Activity</b>	<b>Budgeted overhead cost</b>	<b>Budgeted cost driver</b>	<b>Activity rate</b>
Assembly	\$110,000	7,100 labour hours	\$15.49 per labour hour
Quality assurance	\$370,000	340 inspection hours	\$1,088.24 per inspection hour
Packaging	\$34,000	390 boxes	\$87.179 per box

	<b>Office Buddy</b>
Assembly: $3,000 \times \$15.493$	\$46,479
Quality assurance: $190 \times \$1,088.235$	206,765
Packaging: $125 \times \$87.179$	<u>10,897</u>
Total allocated overhead	\$264,141
Number of units produced	<u>35,000</u>
Per-unit overhead cost	\$7.55

57. RS Inc. is considering implementing a new information system. One of the key steps in this process is establishing an internal steering committee. Which one of the following parties would **LEAST** likely be included in this committee?

a. The purchasing department

@ Answer a) is incorrect. The steering committee guides the systems development life cycle. User departments such as the purchasing department must be represented on the committee. Answer b) is correct. Although the vendor of the system may participate in the system implementation as determined in a service level agreement, the vendor should not be included in the internal steering committee.

\*b. The vendor of the proposed system

@ Answer b) is correct. Although the vendor of the system may participate in the system implementation as determined in a service level agreement, the vendor should not be included in the internal steering committee.

c. Senior management of RS

@ Answer c) is incorrect. The steering committee guides the systems development life cycle. The senior management of RS is ultimately responsible to the board and shareholders for the system adopted. Answer b) is correct. Although the vendor of the system may participate in the system implementation as determined in a service level agreement, the vendor should not be included in the internal steering committee.

d. RS's in-house programmer

@ Answer d) is incorrect. The steering committee guides the systems development life cycle. Input from the in-house programmers will be required on the committee to determine how the system can be tailored to meet RS's needs and how the new system will interact with existing systems. Answer b) is correct. Although the vendor of the system may participate in the system implementation as determined in a service level agreement, the vendor should not be included in the internal steering committee.

58. Which one of the following is a phase of the systems development life cycle (SDLC)?

\*a. Initial feasibility study

@ Answer a) is correct. The initial feasibility study is the first phase of the SDLC.

b. Current state analysis and implementation planning

@ Answer b) is incorrect. The current state analysis is completed as part of the preliminary survey and feasibility study. The implementation planning is completed in all of the stages prior to the actual implementation. Answer a) is correct. The initial feasibility study is the first phase of the SDLC.

c. Post-implementation testing

@ Answer c) is incorrect. Testing is done before the system is implemented; it is evaluated after it is implemented. Answer a) is correct. The initial feasibility study is the first phase of the SDLC.

d. Requirements evaluation

@ Answer d) is incorrect. Requirements are defined and analyzed as a part of phase 2; the system as a whole is evaluated post-implementation. Answer a) is correct. The initial feasibility study is the first phase of the SDLC.

59. The contribution margin ratio (CM ratio) is:

a. revenues equalling costs.

@ Answer a) is incorrect. Break-even occurs when revenues equal costs. Answer d) is correct. The CM ratio is the CM converted to a percentage by dividing the CM dollar value by the sales value.

b. the CM converted to a percentage by dividing the CM dollar value by the variable costs.

@ Answer b) is incorrect. While you need to convert CM into a percentage, you do so by using sales, not variable costs. Answer d) is correct. The CM ratio is the CM converted to a percentage by dividing the CM dollar value by the sales value.

c. fixed costs less target profit.

@ Answer c) is incorrect. A contribution margin is sales less variable costs. Answer d) is correct. The CM ratio is the CM converted to a percentage by dividing the CM dollar value by the sales value.

\*d. the CM converted to a percentage by dividing the CM dollar value by the sales value.

@ Answer d) is correct. The CM ratio is the CM converted to a percentage by dividing the CM dollar value by the sales value.

60. Alpha Leather Company (ALC) manufactures and sells two products: wallets and belts. Operating data pertaining to the two products is as follows:

	Wallets	Belts
Selling price per unit	\$30	\$50
Cost per unit:		
Variable manufacturing costs	\$8	\$15
Variable marketing costs	\$2	\$3
Fixed manufacturing costs	\$5	\$5
Fixed marketing costs	\$6	\$1

	<b>Manufacturing</b>
Wallets (per unit)	15 minutes
Belts (per unit)	40 minutes
Quarterly direct labour hour (DLH) capacity	3,600 hours

The maximum expected sales of wallets and belts for the next quarter are 7,500 units and 4,500 units, respectively.

Which of the following is the most important factor for ALC to consider in determining the optimal production plan for the next quarter?

a. The selling price of wallets and belts

@ Answer a) is incorrect. If ALC aims to maximize profits, it should consider both the revenues and the costs associated with each product. Answer c) is correct because, as is demonstrated below, the DLH represent a production constraint. To maximize profits, ALC should try to maximize the contribution of the constrained resource (the DLH).

DLH requirement at maximum demand for the next quarter:

$$\text{Manufacturing} = (15 / 60 \times 7,500) + (40 / 60 \times 4,500) = 4,875 \text{ DLH}$$

b. The unit contribution margin of wallets and belts

@ Answer b) is incorrect. It does not take into consideration the fact that ALC has limited capacity in terms of DLH. Answer c) is correct because, as is demonstrated below, the DLH represent a production constraint. To maximize profits, ALC should try to maximize the contribution of the constrained resource (the DLH).

DLH requirement at maximum demand for the next quarter:

$$\text{Manufacturing} = (15 / 60 \times 7,500) + (40 / 60 \times 4,500) = 4,875 \text{ DLH}$$

\*c. The contribution margin per direct labour hour of wallets and belts @ Answer c) is correct. As is demonstrated below, the DLH represent a production constraint. To maximize profits, ALC should try to maximize the contribution of the constrained resource (the DLH).

DLH requirement at maximum demand for the next quarter:

$$\text{Manufacturing} = (15 / 60 \times 7,500) + (40 / 60 \times 4,500) = 4,875 \text{ DLH}$$

d. The total cost of wallets and belts @ Answer d) is incorrect. If ALC aims to maximize profits, it should consider both the revenues and the costs associated with each product. Answer c) is correct because, as is demonstrated below, the DLH represent a production constraint. To maximize profits, ALC should try to maximize the contribution of the constrained resource (the DLH).

DLH requirement at maximum demand for the next quarter:

$$\text{Manufacturing} = (15 / 60 \times 7,500) + (40 / 60 \times 4,500) = 4,875 \text{ DLH}$$

61. Which of the following statements is true?

\*a. Differential income and incremental income are two terms used to describe the same thing.

@ Answer a) is correct. Differential income and incremental income both describe the revenues and costs that are likely to be affected by the decision at hand.

b. Sunk costs and opportunity costs are two terms used to describe the same thing.

@ Answer b) is incorrect. Opportunity costs are considered relevant costs, whereas sunk costs are considered irrelevant costs. Answer a) is correct because differential income and incremental income both describe the revenues and costs that are likely to be affected by the decision at hand.

c. Quantitative factors and qualitative factors are two terms used to describe the same thing.

@ Answer c) is incorrect. Quantitative factors can be measured numerically, whereas qualitative factors consist of non-numerical issues. Answer a) is correct because differential income and incremental income both describe the revenues and costs that are likely to be affected by the decision at hand.

d. Irrelevant costs and relevant costs are two terms used to describe the same thing.

@ Answer d) is incorrect. Irrelevant costs are the opposite of relevant costs. Answer a) is correct because differential income and incremental income both describe the revenues and costs that are likely to be affected by the decision at hand.

62. BureauQuery Inc. (BQI) is a credit bureau. It maintains and updates online credit history and information on all Canadian consumers with a credit rating. To manage credit risk in the lending process, government-registered financial institutions pay BQI a monthly fee to access and search its online databases, or pay BQI a fee on a search-by-search basis.

BQI has the following security measures in place:

- Only pre-screened, bonded, authorized IT staff have access to the online credit history and information.
- Government-registered financial institutions submit a request for a BQI user account on the BQI website.
- After providing a business number, business name, address, and telephone number, the website immediately generates a username, and indicates that a secure random password generating device will be mailed within three business days.
- While the device is being shipped, a temporary password is provided for the institution to complete any required credit searches until its secure random password generating device is received and activated.

Which of the following is the best specific security measure to help ensure that fake clients are unable to access BQI's databases?

a. Establish a firewall between internet and database servers.

@ Answer a) is incorrect. A firewall would not be the best way to ensure fake clients are unable to access BQI's database, but it would be helpful to protect against unauthorized users. Answer c) is correct, given how critical it is to ensure that clients are legitimate in the first place.

b. Perform a site visit before approving the client.

@ Answer b) is incorrect. This is a very general answer, and its effectiveness would depend on what procedures were performed during the site visit and what types of things BQI would be looking at during the visit. Answer c) is correct, given how critical it is to ensure that clients are legitimate in the first place.

\*c. Before providing a username or password, in every instance, query the government to confirm that the entity is registered as a financial institution, thereby ensuring the client is legitimate.

@ Answer c) is correct, given how critical it is to ensure that clients are legitimate in the first place.

d. Obtain a supported description of the client's security techniques and obtain management sign-off on the names of all individuals with authorization to access BQI's databases.

@ Answer d) is incorrect. This is appropriate, but it is not the best answer. Answer c) is correct, given how critical it is to ensure that clients are legitimate in the first place.

63. What is the role of the board of directors in a not-for-profit's strategic planning process?

a. The board does not have a role. Strategic planning is the responsibility of management.

@ Answer a) is incorrect. Answer b) is correct. The board is responsible for the oversight of the organization and should meet at least annually to (re)assess the organization's strategy and make changes, if needed.

\*b. The board should meet to (re)assess the organization's strategy and make changes, if needed.

@ Answer b) is correct. The board is responsible for the oversight of the organization and should meet at least annually to (re)assess the organization's strategy and make changes, if needed.

c. The board must develop the strategic plan and carry out the resulting action plan.

@ Answer c) is incorrect. The board must participate in the strategic planning process, but it is not wholly responsible for the plan. Other stakeholders must also be consulted. Management and staff are responsible for implementing the action plan. Answer b) is correct. The board is responsible for the oversight of the organization and should meet at least annually to (re)assess the organization's strategy and make changes, if needed.

d. The board must read the plan prepared by management and make no changes.

@ Answer d) is incorrect. The board must participate in the strategic planning process, rather than simply accepting what management has presented. Answer b) is correct. The board is responsible for the oversight of the organization and should meet at least annually to (re)assess the organization's strategy and make changes, if needed.

64. Yes You Can! is an after-school program for 12- to 18-year-olds that allows students to create and implement different community projects. It is run by a group of retired business professionals and student volunteers during the school year. The majority of funding comes from the provincial government. The board of directors is composed of teachers, parents, and a business professional.

Recently, one of the board members learned that the implementation of performance measures is a not-for-profit best practice. There are four categories of measures to consider: financial measures, internal business measures, learning and growth measures, and social impact measures.

Which of the following would be a good social impact measure?

a. Cost per student enrolled

@ Answer a) is incorrect. This is a financial measure. The correct answer is c) The number of hours spent on community projects.

b. The number of training sessions offered to volunteers

@ Answer b) is incorrect. This is a learning and growth measure. It is internal to the organization. The correct answer is c) The number of hours spent on community projects.

\*c. The number of hours spent on community projects

@ Answer c) is correct. This is a social impact measure, as we are trying to assess the students' impact on the community.

d. Number of returning volunteers

@ Answer d) is incorrect. This is an internal business measure (equivalent to employee turnover). The correct answer is c) The number of hours spent on community projects.

65. The Camp Canada Association is a local not-for-profit organization whose mandate is to provide camping experiences for children of low income families. While the association receives some government funding, most of their revenue comes from corporate sponsorship, donations, and fundraising activities.

Camp Canada Assoc. was started by Sue and John Williams. John is now the CEO (one of three paid employees). Sue is employed full-time as a lawyer and is not involved in the daily operations of Camp Canada Assoc. in any way.

Which one of the following is appropriate as part of Camp Canada Assoc.'s governance structure?

a. According to governance best practice, the board must consist of at least 15 directors.

@ Answer a) is incorrect. There are no specific rules or regulatory requirements regarding the number of board members an organization should have. Answer d) is correct. The board is responsible for the governance of an organization. Typical duties include establishing broad policies and objectives.

b. John Williams, the CEO, should assume the position of chairperson.

@ Answer b) is incorrect. The role of the Board of Directors is to provide oversight of senior management's activities. The CEO reports to the chairperson of the board. Answer d) is correct. The board is responsible for the governance of an organization. Typical duties include establishing broad policies and objectives.

c. The Board of Directors must appoint an audit committee.

@ Answer c) is incorrect. Only publicly traded companies are required to have an audit committee. Answer d) is correct. The board is responsible for the governance of an organization. Typical duties include establishing broad policies and objectives.

\*d. The Board of Directors should develop clear policies to establish a code of conduct.

@ Answer d) is correct. The board is responsible for the governance of an organization. Typical duties include establishing broad policies and objectives. A code of conduct is an example of one such policy.

66. Which of the following provides a brief definition of “value proposition.”

a. The promise a business makes to price-match the competition

@ Answer a) is incorrect. If this is a feature that is attractive to customers, it could be a value proposition. However, it does not define the term. The definition is an innovation, service, or feature that is attractive to customers. The correct answer is b). This is the definition of a value proposition.

\*b. The unique service or feature that is attractive to customers

@ Answer b) is correct. This is the definition of a value proposition.

c. The pricing strategy designed to maximize profits

@ Answer c) is incorrect. While a business will want to consider the cost-volume-profit relationship, it is not of interest to the customer. A value proposition is an implied promise to meet the most critical customer expectations. It answers the question “Why do the customers choose our company or product?” The correct answer is b). This is the definition of a value proposition.

d. The assurance of product quality, price, and placement.

@ Answer d) is incorrect. These elements help ensure a product has the best chance for success, but a value proposition is from a customer perspective. It is the innovations, services, or features that are attractive to customers. The correct answer is b). This is the definition of a value proposition.

67. Which of the following provides the best description of a vision statement?

a. A promise a business makes to price-match the competition.

@ Answer a) is incorrect. The correct answer is b). A vision statement is a vivid description of where the organization is going. It is future oriented, meant to inspire and give direction to an internal audience.

\*b. A vivid description of where the organization is going. It is future oriented, meant to inspire and give direction to an internal audience.

@ Answer b) is correct. This is the definition of a vision statement.

c. A declaration of the core beliefs, principles, and philosophies that comprise the organizational culture, both internally and externally.

@ Answer c) is incorrect. The correct answer is b). A vision statement is a vivid description of where the organization is going. It is future oriented, meant to inspire and give direction to an internal audience.

d. A declaration of an organization's strategic direction.

@ Answer d) is incorrect. The correct answer is b). A vision statement is a vivid description of where the organization is going. It is future oriented, meant to inspire and give direction to an internal audience.

68. Which of the following provides the best description of a mission statement?

a. A promise a business makes to price-match the competition.

@ Answer a) is incorrect. The correct answer is d). A mission statement is a declaration of an organization's strategic direction. It is intended to help move the organization from its present state to the future state envisioned by the vision statement.

b. A vivid description of where the organization is going. It is future oriented, meant to inspire and give direction to an internal audience.

@ Answer b) is incorrect. The correct answer is d). A mission statement is a declaration of an organization's strategic direction. It is intended to help move the organization from its present state to the future state envisioned by the vision statement.

c. A declaration of the core beliefs, principles, and philosophies that comprise the organizational culture, both internally and externally.

@ Answer c) is incorrect. The correct answer is d). A mission statement is a declaration of an organization's strategic direction. It is intended to help move the organization from its present state to the future state envisioned by the vision statement.

\*d. A declaration of an organization's strategic direction.

@ Answer d) is correct. A mission statement is a declaration of an organization's strategic direction. It is intended to help move the organization from its present state to the future state envisioned by the vision statement.

69. Pretty Styles, a small clothing company, has been experiencing competitive pressure from large retailers seeking to gain market share. Pretty Styles distinguishes itself through customer service, price, and community involvement.

In a SWOT analysis, which one of the following facts would be identified as a threat for Pretty Styles?

a. Pretty Styles purchasing power is limited compared with large retailers.

@ Answer a) is incorrect. Pretty Styles will have less purchasing power than a large retailer with larger volume requirements. This is an internal risk factor, and a weakness in a SWOT analysis. Answer d) is correct. This represents an external risk factor beyond Pretty Styles control and is classified as a threat in a SWOT analysis.

b. Pretty Styles lacks a performance evaluation system.

@ Answer b) is incorrect. This is an internal risk factor, and a weakness in a SWOT analysis. Answer d) is correct. This represents an external risk factor beyond Pretty Styles control and is classified as a threat in a SWOT analysis.

c. Pretty Styles rate of expansion is insufficient to maintain its market share.

@ Answer c) is incorrect. Pretty Styles current rate of expansion is an internal risk factor, and a weakness in a SWOT analysis. Answer d) is correct. This represents an external risk factor beyond Pretty Styles control and is classified as a threat in a SWOT analysis.

\*d. There is increasing competition from large retailers.

@ Answer d) is correct. This represents an external risk factor beyond Pretty Styles control and is classified as a threat in a SWOT analysis.

70. In completing a SWOT analysis, which of the following is an example of a weakness?

a. Suppliers in the industry control access to a scarce resource.

@ Answer a) is incorrect. This is an example of a threat. It is external to the company and beyond its control, although it can seek ways to minimize the threat. The correct answer is b). A lack of advertising is a weakness that the company can do something about. The poor brand recognition is a symptom (and may have been identified as a threat).

\*b. Lack of advertising has led to poor brand recognition.

@ Answer b) is correct. The lack of advertising is a weakness that the company can do something about. The poor brand recognition is a symptom (and may have been identified as a threat).

c. Buyer preferences are shifting to a competing company.

@ Answer c) is incorrect. To the extent that this is beyond the company's control, this is a threat. If this is occurring as a result of something the company can control (such as customer service or quality issues), then it is a *symptom* of a weakness. However, the fact itself would be identified as a threat. The correct answer is b). A lack of advertising is a weakness that the company can do something about. The poor brand recognition is a symptom (and may have been identified as a threat).

d. The inflation rate is higher than expected.

@ Answer d) is incorrect. This is external and so is an example of a possible threat or opportunity. Whether it is relevant to a specific SWOT analysis will depend on the situation. The correct answer is b). A lack of advertising is a weakness that the company can do something about. The poor brand recognition is a symptom (and may have been identified as a threat).

71. Which of the following best describes a network structure?

a. A structure where organizations are divided into divisions, and each division has its own resources and is managed as a separate business.

@ Answer a) is incorrect. Answer c) is correct. The network structure is a type of structure that is based virtually, with no need for formal offices. Most of the activities are outsourced to strategic partners and the organizational structure is “virtual.”

b. A structure where functional and business unit structures are combined at the same level of the organization.

@ Answer b) is incorrect. Answer c) is correct. The network structure is a type of structure that is based virtually, with no need for formal offices. Most of the activities are outsourced to strategic partners and the organizational structure is “virtual.”

\*c. A structure that has no need for formal offices. Most of the activities are outsourced to strategic partners and the organizational structure is “virtual.”

@ Answer c) is correct. The network structure is a type of structure that is based virtually, with no need for formal offices. Most of the activities are outsourced to strategic partners and the organizational structure is “virtual.”

d. A structure where one person makes all the decisions, and everyone else implements them.

@ Answer d) is incorrect. Answer c) is correct. The network structure is a type of structure that is based virtually, with no need for formal offices. Most of the activities are outsourced to strategic partners and the organizational structure is “virtual.”

72. Which of the following provides a brief description of a strategic process?

- \*a. A process that involves all aspects of the organization in the strategic plan  
@ Answer a) is correct. The strategic process is a continuous loop from planning to implementation to feedback, and back to planning.
  
- b. A process by which the vision, mission, and values are determined  
@ Answer b) is incorrect. This is the planning part of the strategic process, in which a business determines its overall goals and the constraints it will have to meet in ensuring the goals are met. Answer a) is correct. The strategic process is a continuous loop from planning to implementation to feedback, and back to planning.
  
- c. A process that ensures the organization is aligned with the organizational goals  
@ Answer c) is incorrect. This describes the feedback or performance management stage of the strategic process. Answer a) is correct. The strategic process is a continuous loop from planning to implementation to feedback, and back to planning.
  
- d. A process that determines the best competitive strategy  
@ Answer d) is incorrect. This is part of planning, but is only one part of the strategic process. Answer a) is correct. The strategic process is a continuous loop from planning to implementation to feedback, and back to planning.

73. When does the bargaining power of suppliers increase?

a. When there are many local suppliers of the product

@ Answer a) is incorrect. When there are many alternatives, buyers have several options and the suppliers' bargaining power is lower. Answer d) is correct. It increases the bargaining power of suppliers because the buyer requires the inventory and has limited options to obtain it.

b. When the product is easy to acquire and requires limited skills to handle

@ Answer b) is incorrect. This tends to decrease the bargaining power of suppliers because there will likely be many suppliers. Answer d) is correct. It increases the bargaining power of suppliers because the buyer requires the inventory and has limited options to obtain it.

c. When the number of suppliers increases

@ Answer c) is incorrect. This decreases the bargaining power of original suppliers. Answer d) is correct. It increases the bargaining power of suppliers because the buyer requires the inventory and has limited options to obtain it.

\*d. When a major customer buys in large quantities and is frequently unable to obtain sufficient inventory

@ Answer d) is correct. This increases the bargaining power of suppliers because the buyer requires the inventory and has limited options to obtain it.

74. What is the key difference between for-profit strategic planning and not-for-profit strategic planning?

\*a. As profit isn't the goal, the focus of strategic planning in not-for-profits will predominantly be on whether the organization's objectives are achieved with the resources provided.

@ Answer a) is correct.

b. There is uncertainty in the financial projections of not-for-profit organizations, so strategic plans are limited to one year.

@ Answer b) is incorrect. There is financial uncertainty in all future-looking financial information, regardless of the entity's nature. The correct answer is a) As profit isn't the goal, the focus of strategic planning in not-for-profits will predominantly be on whether the organization's objectives are achieved with the resources provided.

c. The strategic plan of for-profit enterprises must be approved by the board of directors.

@ Answer c) is incorrect. The board of a not-for-profit organization must also approve that organization's plan. The correct answer is a) As profit isn't the goal, the focus of strategic planning in not-for-profits will predominantly be on whether the organization's objectives are achieved with the resources provided.

d. Not-for-profits that rely on public donations do not have to consider market conditions when preparing their strategic plans.

@ Answer d) is incorrect. Not-for-profits that rely on public donations must consider market conditions when planning their fundraising initiative. Market conditions would include at least a competitor assessment and an economic scan. The correct answer is a) As profit isn't the goal, the focus of strategic planning in not-for-profits will predominantly be on whether the organization's objectives are achieved with the resources provided.

75. Joe Newbie quit his job with an accounting firm to start his own bookkeeping business. His strategy is to provide highly personal, low-cost, flat-rate service. His goal is to be the largest bookkeeping firm in the city. Despite a growing business and the addition of several assistants, his company remains unprofitable. His employees are too slow and, although he has tried to motivate them, they cannot deliver the services quickly enough. Even with Joe's careful budgeting, significant employee time overruns are the norm. To make matters worse, his clients often complain about costs and threaten to go elsewhere.

What is the most likely cause of Joe's lack of profitability?

\*a. His generic competitive position strategy is to be the lowest-cost provider and to provide personal service.

@ Answer a) is correct. His goal to undercut the competition has backfired. To be successful, he has to choose between being a low-cost provider and differentiating his company based on customer intimacy. He attracts clients who do not value his expertise or service. They put continued pressure on him to lower his costs (while still expecting personalized service), making it difficult to make a fair profit. Customer intimacy comes with a cost.

b. He needs to screen employees more carefully to ensure efficiency.

@ Answer b) is incorrect. The continued employee time overruns are a symptom of the problem. The correct answer is a). Joe has tried to combine personal service with low costs. He attracts clients who do not value his expertise or service. They put continued pressure on him to lower his costs (while still expecting personalized service), making it difficult to make a fair profit.

c. His strategic goal is to be the largest bookkeeping firm in the city.

@ Answer c) is incorrect. There is nothing wrong with this goal and there are many ways to achieve it. However, by giving in to his customer's pressure to lower his rates, he may become the largest bookkeeping firm operating at a loss. Answer a) is correct. His goal to undercut the competition has backfired. He attracts clients who do not value his expertise or service. They put continued pressure on him to lower his costs (while still expecting personalized service), making it difficult to make a fair profit.

d. His performance management system tracks employee time by customer and by job.

@ Answer d) is incorrect. This seems to be an appropriate and useful feedback system, as it highlights the problem. However, Joe seems to misinterpret what it is telling him. He wants his employees to speed up, but the fact may be that he cannot provide this level of service for what he charges. Answer a) is correct. His goal to undercut the competition has backfired. He attracts clients who do not value his expertise or service. They put continued pressure on him to lower his costs (while still expecting personalized service), making it difficult to make a fair profit.

76. Which of the following is likely to be detected by an internal control system?

a. Fraudulent actions concealed by a group of employees

@ Answer a) is incorrect. Fraudulent actions by a group of employees (that is, collusion) are difficult to detect by an internal control system. Such controls can be circumvented by a group of employees who collude to defraud the company. Answer d) is correct. Ensuring that disbursements are authorized is a task traditionally associated with the internal control system.

b. A decrease in market share

@ Answer b) is incorrect. Internal control includes activities such as optimizing the use of resources, preventing and detecting misstatements, safeguarding assets, and maintaining reliable control systems. As a result, it does not typically include measuring market share. Answer d) is correct. Ensuring that disbursements are authorized is a task traditionally associated with the internal control system.

c. Damage done to the company's reputation

@ Answer c) is incorrect. Internal control includes activities such as optimizing the use of resources, preventing and detecting misstatements, safeguarding assets, and maintaining reliable control systems. As the focus is on preventing and detecting issues internal to the company, internal controls would not typically detect an issue with the external perception of the company. Answer d) is correct. Ensuring that disbursements are authorized is a task traditionally associated with the internal control system.

\*d. Unauthorized disbursements

@ Answer d) is correct. Ensuring that disbursements are authorized is a task traditionally associated with the internal control system.

77. Lilian is a new CPA and she has just accepted the position of treasurer with a small, local not-for-profit board. When reviewing the bank statements, she notices that there is a \$100 cheque each month payable to Joe Davison. Joe is one of the directors on the board and is also one of the three people authorized to sign cheques. When Lilian enquires, the board chairperson Carlos tells her that Joe takes care of shoveling snow, sweeping the walk and mowing the small lawn in front of the organization's building. Carlos goes on to say that Joe volunteers more than any other person. Besides, Joe needs the money and the payments were approved by the board a few years ago.

What, if anything, should Lilian do?

a. Lilian should do nothing. Board approval is all that is required.

@ Answer a) is incorrect. While she may want to check that the payments were indeed approved, this response is inadequate. Answer d) is correct. Many small boards have weak controls. Although the payments are seemingly insignificant and were approved by the board, there are a myriad of other issues that can arise from these recurring payments such as WCB obligations, payroll taxes if applicable, source deductions and reporting (there is no threshold for EI deductions and T4 slips must be prepared if remuneration exceeds \$500), insurance concerns (in the event Joe is injured or causes injury in the performance of his duties) and possible conflict of interest. By assisting the board to review and strengthen its policies, Lillian can add value to this organization.

b. Lilian should check with the auditors to see if the \$100 is a material amount.

@ Answer b) is incorrect. Materiality, from an auditing perspective, is very different from the concept of something being important to the organization. The board and management of an organization should have policies, controls and procedures in place to prevent and detect errors and misappropriations. Answer d) is correct. Many small boards have weak controls. Although the payments are seemingly insignificant and were approved by the board, there are a myriad of other issues that can arise from these recurring payments such as WCB obligations, payroll taxes if applicable, source deductions and reporting (there is no threshold for EI deductions and T4 slips must be prepared if remuneration exceeds \$500), insurance concerns (in the event Joe is injured or causes injury in the performance of his duties) and possible conflict of interest. By assisting the board to review and strengthen its policies, Lillian can add value to this organization.

c. This payment is highly suspect and may be illegal. Lillian should resign so as to not be associated.

@ Answer c) is incorrect. Resigning at this point is premature. There is no evidence yet of illegal activity. At the very least, further investigation is required followed by an attempt to rectify the situation. Answer d) is correct. Many small boards have weak controls. Although the payments are seemingly insignificant and were approved by the board, there are a myriad of other issues that can arise from these recurring payments such as WCB obligations, payroll taxes if applicable, source deductions and reporting (there is no threshold for EI deductions and T4 slips must be prepared if remuneration exceeds \$500), insurance concerns (in the event Joe is injured or causes injury in the performance of his duties) and possible conflict of interest. By assisting the board to review and strengthen its policies, Lillian can add value to this organization.

\*d. Lillian should assist the board in improving its policies.

@ Answer d) is correct. Many small boards have weak controls. Although the payments are seemingly insignificant and were approved by the board, there are a myriad of other issues that can arise from these recurring payments such as WCB obligations, payroll taxes if applicable, source deductions and reporting (there is no threshold for EI deductions and T4 slips must be prepared if remuneration exceeds \$500), insurance concerns (in the event Joe is injured or causes injury in the performance of his duties) and possible conflict of interest. By assisting the board to review and strengthen its policies, Lillian can add value to this organization.

78. Which of the following is an example of an ethically questionable action committed by a controller?

a. Near the end of a fiscal year with lower-than-expected profits, suggesting that an expensive advertising campaign be delayed until the next fiscal year

@ Answer a) is incorrect. Delaying an expensive advertising campaign does not represent an ethically questionable action and could be a reasonable option in the circumstances. Even if the advertising expenditure was not delayed, it could be argued that the matching principle would support expensing the advertising costs in the next fiscal year, if the impact on sales is likely to be felt only in the next fiscal year. Answer c) is correct. The controller should not capitalize development costs if the probability of success of the product in the market is low. To do so, even at the request of a divisional manager, compromises the accountant's competence, objectivity, and integrity, and would violate the Rules of Professional Conduct (associating oneself with false or misleading financial information).

b. Accepting a gift of a box of chocolates from a regular supplier and sharing the chocolates with all of the company's employees

@ Answer b) is incorrect. Accepting such a gift and sharing it with other employees would not represent an ethically questionable action as the gift is small, all employees can partake of the gift, and the giver is a regular supplier. It is unlikely that the gift would influence any decisions made by the controller or any other employees of the company. Answer c) is correct. The controller should not capitalize development costs if the probability of success of the product in the market is low. To do so, even at the request of a divisional manager, compromises the accountant's competence, objectivity, and integrity, and would violate the Rules of Professional Conduct (associating oneself with false or misleading financial information).

\*c. At the request of a manager, capitalizing instead of expensing the development costs of a new product when the probability of its success in the market is low

@ Answer c) is correct. The controller should not capitalize development costs if the probability of success of the product in the market is low. To do so, even at the request of a divisional manager, compromises the accountant's competence, objectivity, and integrity, and would violate the Rules of Professional Conduct (associating oneself with false or misleading financial information).

d. Reporting to the chief financial officer a suspicion that a line manager is providing incorrect production data in an effort to increase his year-end bonus

@ Answer d) is incorrect. This represents a correct response to a suspicion of a co-worker committing an unethical act. Answer c) is correct. The controller should not capitalize development costs if the probability of success of the product in the market is low. To do so, even at the request of a divisional manager, compromises the accountant's competence, objectivity, and integrity, and would violate the Rules of Professional Conduct (associating oneself with false or misleading financial information).

79. The primary role of a Board of Directors is to:

a. review the financial statements of the organization.

@ Answer a) is incorrect, as this not the primary role of the board. Answer c) is correct. The role of the Board of Directors is to provide strategic direction to the organization and oversight of senior management's activities.

b. oversee the implementation of the organization's internal controls.

@ Answer b) is incorrect, as this is not the primary role of the board. Answer c) is correct. The role of the Board of Directors is to provide strategic direction to the organization and oversight of senior management's activities.

\*c. provide strategic direction to the organization and oversight of senior management's activities.

@ Answer c) is correct. The role of the Board of Directors is to provide strategic direction to the organization and oversight of senior management's activities.

d. manage the day to day operations of the organization.

@ Answer d) is incorrect, as the board should not be actively involved in day to day operations. Answer c) is correct. The role of the Board of Directors is to provide strategic direction to the organization and oversight of senior management's activities.

80. Which of the following best describes a functional structure?

a. A structure where organizations are divided into divisions, and each division has its own resources and is managed as a separate business.

@ Answer a) is incorrect. Answer c) is correct. A functional structure has specialized departments that are defined by their purpose and are staffed accordingly — for example, accounting, human resources, data processing, and sales.

b. A structure where functional and business unit structures are combined at the same level of the organization.

@ Answer b) is incorrect. Answer c) is correct. A functional structure has specialized departments that are defined by their purpose and are staffed accordingly — for example, accounting, human resources, data processing, and sales.

\*c. A structure where specialized departments are defined by their purpose and are staffed accordingly — for example, accounting, human resources, data processing, and sales.

@ Answer c) is correct. A functional structure has specialized departments that are defined by their purpose and are staffed accordingly — for example, accounting, human resources, data processing, and sales.

d. A structure where one person makes all the decisions, and everyone else implements them.

@ Answer d) is incorrect. Answer c) is correct. A functional structure has specialized departments that are defined by their purpose and are staffed accordingly — for example, accounting, human resources, data processing, and sales.

81. The bank is offering a savings account that will earn interest at 4%, compounded quarterly. The inflation rate is 1%. What is the effective annual rate (EAR) for this account?

a. 3.0%

@ Answer a) is incorrect. This is the real rate, not the EAR. Answer c) is correct because the  $EAR = (1 + 0.04/4)^4 - 1 = 0.0406 = 4.06\%$ .

b. 4.0%

@ Answer b) is incorrect. The EAR formula was not used. Answer c) is correct because the  $EAR = (1 + 0.04/4)^4 - 1 = 0.0406 = 4.06\%$ .

\*c. 4.1%

@ Answer c) is correct. The  $EAR = (1 + 0.04/4)^4 - 1 = 0.0406 = 4.06\%$ .

d. 17.0%

@ Answer d) is incorrect. The quoted rate was not divided by four to determine the rate compounding each quarter. Answer c) is correct because the  $EAR = (1 + 0.04/4)^4 - 1 = 0.0406 = 4.06\%$

82. Ryan Car Inc. (Ryan) is assessing the investment in a new machine that will cost \$450,000 after taxes. Ryan has forecasted that with the new machine, annual before-tax cash inflows will increase by \$125,000 per year for the next eight years. The company has an income tax rate of 15%.

What is the payback period for this project?

a. 3.18 years

@ Answer a) is incorrect. The initial investment was adjusted for taxes, which was not required. Answer c) is correct because the payback period is:  $\$450,000 / \$125,000 \times (1 - 0.15) = 4.24$  years.

b. 3.60 years

@ Answer b) is incorrect. The annual cash flows were not adjusted for taxes. Answer c) is correct because the payback period is:  $\$450,000 / \$125,000 \times (1 - 0.15) = 4.24$  years.

\*c. 4.24 years

@ Answer c) is correct. The payback period is:  $\$450,000 / \$125,000 \times (1 - 0.15) = 4.24$  years.

d. 8.0 years

@ Answer d) is incorrect. This is the length of time that the cash flows will occur, not how many years it will take to recover the initial investment. Answer c) is correct because the payback period is:  $\$450,000 / \$125,000 \times (1 - 0.15) = 4.24$  years.

83. Quintesse Corp. recently issued shares to the public through an initial public offering (IPO). The initial issue price was \$20 per share. By the end of the first day, the shares were trading at \$32 per share.

Which of the following statements best describes what happened to the share price?

\*a. The share price was underpriced in the IPO.

@ Answer a) is correct. The increase in price of a new share issue on its first day of trading is an example of the common occurrence known as underpricing.

b. The Green Shoe provision in the IPO caused the share price to rise.

@ Answer b) is incorrect. A Green Shoe provision, also known as an overallotment option, gives the underwriter the option to purchase additional shares at the original offer price. The underwriter would do this if demand was high and the share price increased, but it is not the provision itself that causes the share price to rise. Answer a) is correct. The increase in price of a new share issue on its first day of trading is an example of the common occurrence known as underpricing.

c. The increase in value is a result of the lockup period in the IPO.

@ Answer c) is incorrect. The lockup period relates to the period of time during which insiders may not sell their shares in the public market. The lockup period would not cause the share price to increase. Answer a) is correct. The increase in price of a new share issue on its first day of trading is an example of the common occurrence known as underpricing.

d. The red herring in the IPO priced the shares incorrectly.

@ Answer d) is incorrect. A red herring is another name for a preliminary prospectus, which is the prospectus initially issued with no share price. Answer a) is correct. The increase in price of a new share issue on its first day of trading is an example of the common occurrence known as underpricing.

84. Bolder Co. (Bolder) is considering a bond issue for \$5,000,000 that will mature in five years time, and is convertible into common shares at the investor's option. The bonds are redeemable at the company's option any time after the first year, at a price of \$103. Bolder is required to deposit \$1,000,000 annually with a trustee. Bolder must also maintain an EBITDA (earnings before interest, tax, depreciation, and amortization) to interest coverage ratio of at least 4.

Which of the following statements correctly explains the sinking fund provision related to this bond?

a. Bolder must maintain an EBITDA-to-interest coverage ratio of at least 4.

@ Answer a) is incorrect. This is a protective covenant and not the sinking fund provision. Answer d) is correct. The requirement to deposit money annually with a trustee is a sinking fund provision that ensures there will be enough cash to pay off the bond when it comes due.

b. Bolder may repurchase the bonds at any time after the first year, at a price of \$103.

@ Answer b) is incorrect. This is a call provision and not the sinking fund provision. Answer d) is correct. The requirement to deposit money annually with a trustee is a sinking fund provision that ensures there will be enough cash to pay off the bond when it comes due.

c. Bolder must convert the bonds into shares upon the investor's request.

@ Answer c) is incorrect. This is a conversion provision and not the sinking fund provision. Answer d) is correct. The requirement to deposit money annually with a trustee is a sinking fund provision that ensures there will be enough cash to pay off the bond when it comes due.

\*d. Bolder must deposit \$1,000,000 each year with a trustee.

@ Answer d) is correct. The requirement to deposit money annually with a trustee is a sinking fund provision that ensures there will be enough cash to pay off the bond when it comes due.

85. Which of the following is a disadvantage of informal negotiations with creditors?

a. The process of informal negotiations is lengthy and expensive for the entity.

@ Answer a) is incorrect. Informal negotiations are usually completed more quickly and for less cost than more formal legal court proceedings. Answer c) is correct. Some creditors may “hold out” and refuse to negotiate, requiring the company to seek formal legal court proceedings instead.

b. Individual creditors have little say or control over what terms and conditions can be renegotiated, since the entire class of creditors has to agree.

@ Answer b) is incorrect. Informal negotiations are done individually with each creditor, so this will give each creditor more control over the final revised terms and conditions. Answer c) is correct. Some creditors may “hold out” and refuse to negotiate, requiring the company to seek formal legal court proceedings instead.

\*c. Individual creditors may refuse to negotiate, jeopardizing the entire restructuring plan for the company.

@ Answer c) is correct. Some creditors may “hold out” and refuse to negotiate, requiring the company to seek formal legal court proceedings instead.

d. The entity is required to provide cash flow forecasts to the creditors.

@ Answer d) is incorrect. There is no legal requirement to provide creditors with information. In fact, this lack of information may be detrimental, since a creditor may not be able to make a decision without some knowledge of how the company will improve its cash flows in the future. Answer c) is correct. Some creditors may “hold out” and refuse to negotiate, requiring the company to seek formal legal court proceedings instead.

86. The current risk-free rate is 2.1% and the market risk premium is 5%. XYZ Co. (XYZ)'s common equity has a beta of 1.5.

What is the expected cost of equity for XYZ?

a. 6.45%

@ Answer a) is incorrect. The market risk premium has already considered the risk-free rate, so the risk-free rate should not be subtracted again. Answer c) is correct. The expected cost of equity is calculated as  $2.1\% + 1.5(5\%) = 9.6\%$ .

b. 8.15%

@ Answer b) is incorrect. The market risk premium (and not the risk-free rate) was added to the risk premium, and the beta was multiplied by the risk-free rate. Answer c) is correct. The expected cost of equity is calculated as  $2.1\% + 1.5(5\%) = 9.6\%$ .

\*c. 9.6%

@ Answer c) is correct. The expected cost of equity is calculated as  $2.1\% + 1.5(5\%) = 9.6\%$ .

d. 10.65%

@ Answer d) is incorrect. The beta was multiplied by the market risk premium plus the risk-free rate. Answer c) is correct. The expected cost of equity is calculated as  $2.1\% + 1.5(5\%) = 9.6\%$ .

87. The shares of Sunshine Ltd. (Sunshine's) are currently trading at \$54.65 per share and have a beta of 1.5. The risk-free rate of return is 2.0% and the average market risk premium is 4.5%.

What is the required rate of return on Sunshine's shares?

a. 5.75%

@ Answer a) is incorrect. This calculation treated the average market risk premium as the market return and subtracted the risk-free rate. Answer c) is correct. The cost of equity is calculated as follows:  $CAPM = R_f + \beta (R_m - R_f) = 2.0\% + 1.5(4.5\%) = 8.75\%$ .

b. 6.75%

@ Answer b) is incorrect. This calculation excluded the risk-free rate. Answer c) is correct. The cost of equity is calculated as follows:  $CAPM = R_f + \beta (R_m - R_f) = 2.0\% + 1.5(4.5\%) = 8.75\%$ .

\*c. 8.75%

@ Answer c) is correct. The cost of equity is calculated as follows:  $CAPM = R_f + \beta (R_m - R_f) = 2.0\% + 1.5(4.5\%) = 8.75\%$ .

d. 11.75%

@ Answer d) is incorrect. This calculation added together the risk premium and  $R_f$ , rather than using just the average market risk premium. Answer c) is correct. The cost of equity is calculated as follows:  $CAPM = R_f + \beta (R_m - R_f) = 2.0\% + 1.5(4.5\%) = 8.75\%$ .

88. Boros Ltd. has determined the cash flows to be generated from a project as follows:

Year 1	\$50,000
Year 2	\$75,000
Year 3	\$30,000

The appropriate discount rate for this investment is 15%.

How much must Boros initially invest in this project in order to generate a project return of 15%?

\*a. \$119,915

@ Answer a) is correct. The present value is calculated using the formula NPV (15%, 50,000, 75,000, 30,000). The amount of the initial investment to generate a project return of 15% will be equal to the present value of all the cash flows, giving an NPV of 0.

b. \$137,902

@ Answer b) is incorrect. This calculation included the \$50,000 as a Time 0 cash flow and therefore only discounted the remaining payments using the formula NPV (15%, 75,000, 30,000) + 50,000. Answer a) is correct. The present value is calculated using the formula NPV (15%, 50,000, 75,000, 30,000). The amount of the initial investment to generate a project return of 15% will be equal to the present value of all the cash flows, giving an NPV of 0.

c. \$134,783

@ Answer c) is incorrect. It adds all the payments together and then divides by 1.15, assuming only a one-year discount. Answer a) is correct. The present value is calculated using the formula NPV (15%, 50,000, 75,000, 30,000). The amount of the initial investment to generate a project return of 15% will be equal to the present value of all the cash flows, giving an NPV of 0.

d. \$155,000

@ Answer d) is incorrect. This simply adds all the payments together and does not discount the cash flows. Answer a) is correct. The present value is calculated using the formula NPV (15%, 50,000, 75,000, 30,000). The amount of the initial investment to generate a project return of 15% will be equal to the present value of all the cash flows, giving an NPV of 0.

89. Costmo Inc. is using the present value interest factor (PVIF) formula approach to determine the NPV of an investment.

If a discount rate of 12% is being used, what will be the PVIF for cash flows received in Year 4?

a. 0.2232

@ Answer a) is incorrect. 1.12 was multiplied by 4 and not taken to the fourth power; that is,  $1/(1.12 \times 4)$ . Answer c) is correct. It is calculated as follows:  $1/(1.12)^4$ .

b. 0.5997

@ Answer b) is incorrect. This was calculated as  $(1 - 0.12)^4$ , which subtracted the 0.12 rather than adding it and the inverse was not taken. Answer c) is correct. It is calculated as follows:  $1/(1.12)^4$ .

\*c. 0.6355

@ Answer c) is correct. It is calculated as follows:  $1/(1.12)^4$ .

d. 1.5735

@ Answer d) is incorrect. The calculation — that is,  $(1.12)^4$  — was not divided into 1. Answer c) is correct. It is calculated as follows:  $1/(1.12)^4$ .

90. Which one of the following companies is most likely able to use debt financing to improve shareholder returns, provided that investments are profitable?

a. A company that has financially strong competitors with low debt balances

@ Answer a) is incorrect. For a company with financially strong competitors, having more debt could place the company in a relatively weak position with respect to its competitors. This relatively weak position is likely to have a negative impact on the share price. Answer b) is correct. A company with a steady, predictable cash flow will be considered low risk, and therefore could benefit from financing with a low after-tax cost of debt. A source of low-cost financing coupled with profitable, potential investment alternatives can result in increased shareholder returns.

\*b. A company with a steady, predictable cash flow

@ Answer b) is correct. A company with a steady, predictable cash flow will be considered low risk, and therefore could benefit from financing with a low after-tax cost of debt. A source of low-cost financing coupled with profitable, potential investment alternatives can result in increased shareholder returns.

c. A company with low earnings and cumulative losses

@ Answer c) is incorrect. A company with low earnings and cumulative losses is likely to be in financial distress and will not have access to low-cost debt financing. Answer b) is correct. A company with a steady, predictable cash flow will be considered low risk, and therefore could benefit from financing with a low after-tax cost of debt. A source of low-cost financing coupled with profitable, potential investment alternatives can result in increased shareholder returns.

d. A company with high costs of financial distress

@ Answer d) is incorrect. A company with high costs of financial distress will attempt to avoid debt financing to limit the risk of impairing solvency. Answer b) is correct. A company with a steady, predictable cash flow will be considered low risk, and therefore could benefit from financing with a low after-tax cost of debt. A source of low-cost financing coupled with profitable, potential investment alternatives can result in increased shareholder returns.

91. Which of the following describes the optimal capital structure for an entity?

a. 100% debt, because of the deductibility of interest

@ Answer a) is incorrect. Although the tax deductibility of interest has value, too much leverage results in higher borrowing costs and financial distress costs that offset the savings. Answer c) is correct. The optimal capital structure is the mix of debt and equity financing that minimizes the weighted average cost of capital and maximizes the company's share price.

b. 100% equity, because there is no risk of financial distress costs

@ Answer b) is incorrect. The cost of equity for an entity is always higher than the after-tax cost of debt, given that the risk for debtholders is less and interest costs are tax deductible. Answer c) is correct. The optimal capital structure is the mix of debt and equity financing that minimizes the weighted average cost of capital and maximizes the company's share price.

\*c. The mix of debt and equity that minimizes an entity's cost of capital and maximizes the value of the company

@ Answer c) is correct. The optimal capital structure is the mix of debt and equity financing that minimizes the weighted average cost of capital and maximizes the company's share price.

d. 50% debt and 50% equity, which strikes a balance between leverage and risk of default

@ Answer d) is incorrect. There is no hard and fast rule regarding the optimal mix of debt and equity. The optimal capital structure is dependent on many company- and industry-specific factors. Answer c) is correct. The optimal capital structure is the mix of debt and equity financing that minimizes the weighted average cost of capital and maximizes the company's share price.

92. Which of the following statements best describes project financing?

a. The lender will assess the value of the assets at the time the lending agreement is signed to determine the amount of funds to advance.

@ Answer a) is incorrect. The amount of funds in project financing is related to a construction project that will be built and the amount of capital invested by the sponsors. Answer c) is correct. Lenders will be paid back from the cash flows generated from the completed project. Accordingly, lenders will review the forecasted cash flows to determine the repayment terms and interest rate.

b. In addition to collateral, the lender will require covenants be met.

@ Answer b) is incorrect. Project financing is not subject to covenant calculations because the financing is provided during the construction of an asset that is not yet operating. Answer c) is correct. Lenders will be paid back from the cash flows generated from the completed project. Accordingly, lenders will review the forecasted cash flows to determine the repayment terms and interest rate.

\*c. The lender assesses the cash flow stream related to the completed project to determine the repayment terms and interest rate.

@ Answer c) is correct. Lenders will be paid back from the cash flows generated from the completed project. Accordingly, lenders will review the forecasted cash flows to determine the repayment terms and interest rate.

d. The lender will provide a loan for the refinancing of an established office building owned by a company.

@ Answer d) is incorrect. Project financing is used for the construction of large infrastructure projects that are stand-alone entities. Answer c) is correct. Lenders will be paid back from the cash flows generated from the completed project. Accordingly, lenders will review the forecasted cash flows to determine the repayment terms and interest rate.

93. Notwithstanding its drawbacks, the payback period method is widely used as a project evaluation tool, as it can provide useful information. Which of the following statements about the payback period method is **true**?

\*a. The payback period method gives an indication of how quickly the firm will recover its investment.

@ Answer a) is correct. The payback period method gives an indication of how quickly the firm will recover its investment.

b. The payback period method is helpful in evaluating how sensitive a net present value calculation is to small changes in assumptions.

@ Answer b) is incorrect, as the methodology does not address sensitivities, nor does the result speak to NPV. Answer a) is correct. The payback period method gives an indication of how quickly the firm will recover its investment.

c. The payback period method accounts for all cash flows in the project under consideration.

@ Answer c) is incorrect, as the payback period method ignores cash flows received after recovery of the initial investment. Answer a) is correct. The payback period method gives an indication of how quickly the firm will recover its investment.

d. It is very easy to compare opportunity costs when the payback period method of project evaluation is used.

@ Answer d) is incorrect, as using the payback period method does not facilitate comparison of opportunity costs. Answer a) is correct. The payback period method gives an indication of how quickly the firm will recover its investment.

94. Which of the following best describes the type of financing that would be most appropriate for the commercialization stage of a company?

a. Short-term line of credit

@ Answer a) is incorrect. A lender will not advance funds until there is stability in operating cash flows and the entity is generating sufficient cash flows to pay the interest obligations. During the commercialization phase, the entity has no revenues and significant costs, so there is little cash available to pay interest.

Answer c) is correct. A venture capitalist will have adequate funds available to finance the commercialization costs and will not require immediate returns on these cash flows. The venture capitalist is willing to accept the high risk of an equity investment in an entity that has not generated revenues.

b. Long-term secured bank loan

@ Answer b) is incorrect. A lender will not advance funds until the entity generates stable and sufficient operating cash flows to pay the interest and principal obligations. During the commercialization phase, the entity has no revenues and significant costs, so there is little cash available to pay interest.

Answer c) is correct. A venture capitalist will have adequate funds available to finance the commercialization costs and will not require immediate returns on these cash flows. The venture capitalist is willing to accept the high risk of an equity investment in an entity that has not generated revenues.

\*c. Equity supplied by a venture capitalist

@ Answer c) is correct. A venture capitalist will have adequate funds available to finance the commercialization costs and will not require immediate returns on these cash flows. The venture capitalist is willing to accept the high risk of an equity investment in an entity that has not generated revenues.

d. None, as there is no external capital required during this phase

@ Answer d) is incorrect. Substantial capital is required during the commercialization phase for costs related to starting production, administration, marketing, and sales, which must be raised from external sources.

Answer c) is correct. A venture capitalist will have adequate funds available to finance the commercialization costs and will not require immediate returns on these cash flows. The venture capitalist is willing to accept the high risk of an equity investment in an entity that has not generated revenues.

95. Financial analysis and planning is an essential process, but one that is subject to a number of limitations. Which of the following is the most severe limitation of the financial planning process?

a. The financial planning process allows management to monitor the sensitivity of forecast results to changes in key variables.

@ Answer a) is incorrect, as the ability to monitor sensitivities, while time-consuming, gives greater insight into the business and should lead to more accurate plans in the future. Answer d) is correct. The need to constantly update the plan brings the validity of the process into question and is very time-consuming to do.

b. The entire management group should be involved in the financial planning process.

@ Answer b) is incorrect. While time-consuming, the involvement of all key players is a benefit, as it should result in the preparation of a more accurate plan than would otherwise be produced. Answer d) is correct. The need to constantly update the plan brings the validity of the process into question and is very time-consuming to do.

c. The basic financial plan arrived at through the financial planning process is only a starting point.

@ Answer c) is incorrect. This is a benefit, rather than a limitation. Once formulated, the plan can then be used as a basis on which other decisions can be made (for example, whether more staff should be hired or a plant expanded). Answer d) is correct. The need to constantly update the plan brings the validity of the process into question and is very time-consuming to do.

\*d. The financial plan must be constantly updated to reflect fast-changing micro- and macroeconomic conditions.

@ Answer d) is correct. The need to constantly update the plan brings the validity of the process into question and is very time-consuming to do.

96. During which phase of the business life cycle is a venture capitalist most likely to participate in financing a business?

a. Startup (introduction)

@ Answer a) is incorrect. During the startup (introduction) phase, the company has yet to have a product or service developed. Sources of financing during this phase are often limited to personal savings, family, and friends.

Answer c) is correct. Venture capitalists target companies with substantial upside returns. During the commercialization phase, the company has developed its product or new technology but needs venture capital financing to bring it to market.

b. Maturity

@ Answer b) is incorrect. At maturity, the company is generating strong cash inflows, and it is likely that any remaining upside returns are insufficient for the venture capital business model. Venture capital financing is very expensive, and mature companies will prefer to replace equity financing with debt financing.

Answer c) is correct. Venture capitalists target companies with substantial upside returns. During the commercialization phase, the company has developed its product or new technology but needs venture capital financing to bring it to market.

\*c. Commercialization

@ Answer c) is correct. Venture capitalists target companies with substantial upside returns. During the commercialization phase, the company has developed its product or new technology but needs venture capital financing to bring it to market.

d. Decline

@ Answer d) is incorrect. The decline phase of the business life cycle represents the end of life for a company whose products have become outdated. As the upside for the equity holder is limited, venture capital is unlikely to have much of an interest in these sorts of opportunities.

Answer c) is correct. Venture capitalists target companies with substantial upside returns. During the commercialization phase, the company has developed its product or new technology but needs venture capital financing to bring it to market.

97. Several years ago, Carlos Cannery Ltd. (CCL) granted 50,000 employee stock options with the following terms and conditions:

Each option vests at the end of three years and expires three years later. The exercise price is \$35 per share (equal to the market price at the date of the grant). If an employee leaves during the vesting period, the options are forfeited at this time. These are equity-settled options. The fair value of each option (determined using the Black-Scholes model) is \$4.25 per option at the time of the grant.

One year after the options vested, 20,000 of these options were exercised by the employees when the market price of CCL's shares was \$65 per share. Which of the following correctly outlines the outcome for the company for the exercise of these options?

a. When the options are exercised, the company will receive \$600,000 and issue 20,000 new shares.

@ Answer a) is incorrect. It is the exercise price of \$35 that is received for each new share issued, not the difference between the market price and the exercise price.

Answer b) is correct.  $20,000 \text{ options} \times \$35 = \$700,000$  cash received. One new share is issued for each option exercised, so 20,000 new shares are issued.

\*b. When the options are exercised, the company will receive \$700,000 and issue 20,000 new shares.

@ Answer b) is correct.  $20,000 \text{ options} \times \$35 = \$700,000$  cash received. One new share is issued for each option exercised, so 20,000 new shares are issued.

c. When the options are exercised, the company will receive \$85,000 and issue 20,000 new shares.

@ Answer c) is incorrect. The company receives the exercise price of \$35 per option exercised, not the fair value of the option at the time of the grant. Answer b) is correct.  $20,000 \text{ options} \times \$35 = \$700,000$  cash received. One new share is issued for each option exercised, so 20,000 new shares are issued.

d. When the options are exercised, the company will receive no additional cash. Instead, 20,000 are issued and a compensation expense of \$85,000 is recognized. receives the exercise price of \$35 and issues one new share for each option exercised. Answer b) is correct.  $20,000 \text{ options} \times \$35 = \$700,000$  cash received. One new share is issued for each option exercised, so 20,000 new shares are issued.

98. Which of the following statements best describes share-based compensation?

a. Share-based compensation arrangements are used by private companies that plan to remain private.

@ Answer a) is incorrect. Share-based compensation plans are typically not used by small, closely held companies without plans to go public or be sold because there is little opportunity for liquidity for such shares. Answer c) is correct. The primary objective of share-based compensation is to align the goals of employees with those of the entity's shareholders.

b. Share-based compensation arrangements align stakeholder objectives by discouraging risky behaviour.

@ Answer b) is incorrect. Because stock options usually have very little downside risk for option-holders, share-based compensation may encourage risk-taking behaviour by managers. Answer c) is correct. The primary objective of share-based compensation is to align the goals of employees with those of the entity's shareholders.

\*c. The primary reason for share-based compensation arrangements is to align employees' objectives with shareholders.

@ Answer c) is correct. The primary objective of share-based compensation is to align the goals of employees with those of the entity's shareholders.

d. Stock options issued under a share-based compensation arrangement are valued through direct comparison with listed shares.

@ Answer d) is incorrect. Stock options are valued using an option pricing model, such as the Black-Scholes model. One of the inputs for such models is the fair value of the underlying shares, but there are others. Answer c) is correct. The primary objective of share-based compensation is to align the goals of employees with those of the entity's shareholders.

99. Laurie wants to have \$50,000 in 10 years for a vacation. She is considering an investment that will pay annual interest of 6%, compounded quarterly. How much does Laurie need to invest today in this investment?

\*a. \$27,563.12

@ Answer a) is correct. The inputs are  $FV = -50,000$ ;  $N = 10 \times 4 = 40$ ;  $I/Y = 6\%/4 = 1.5$ ; and  $CPT PV = \$27,563.12$ .

b. \$27,919.74

@ Answer b) is incorrect. The interest rate must be converted to a quarterly rate by dividing 6% by 4 to get 1.5%, and the number of periods is not 10 years but 40 quarters. Answer a) is correct because the inputs are  $FV = -50,000$ ;  $N = 10 \times 4 = 40$ ;  $I/Y = 1.5$ ; and  $CPT PV = \$27,563.12$ .

c. \$43,083.36

@ Answer c) is incorrect. The number of periods is not 10, but 40 ( $10 \times 4$ ), because the interest rate is a quarterly rate. Answer a) is correct because the inputs are  $FV = -50,000$ ;  $N = 10 \times 4 = 40$ ;  $I/Y = 1.5$ ; and  $CPT PV = \$27,563.12$ .

d. \$90,700.92

@ Answer d) is incorrect. The future value, not the present value, was calculated. Answer a) is correct because the inputs are  $FV = -50,000$ ;  $N = 10 \times 4 = 40$ ;  $I/Y = 1.5$ ;  $CPT PV = \$27,563.12$ .

100. Show Us Co. has annual credit sales of \$16,000,000. If the company decides to increase its credit terms to 40 days from 30 days, which of the following statements regarding the impact of this policy change on the company's accounts receivable turnover ratio is true?

a. The turnover will increase by 3.1.

@ Answer a) is incorrect. The numerical calculation is correct but the direction will be a decrease, not an increase. Answer b) is correct. The old turnover ratio is 12.2 ( $365/30$ ) and the new turnover ratio is  $365/40 = 9.1$ , so the difference is a decrease of 3.1 ( $12.2 - 9.1$ ).

\*b. The turnover ratio will decrease by 3.1.

@ Answer b) is correct. The old turnover ratio is 12.2 ( $365/30$ ) and the new turnover ratio is  $365/40 = 9.1$ , so the difference is a decrease of 3.1 ( $12.2 - 9.1$ ).

c. The turnover will increase by 9.1.

@ Answer c) is incorrect. This is the new receivable turnover and not the amount of the change. Answer b) is correct. The old turnover ratio is 12.2 ( $365/30$ ) and the new turnover ratio is  $365/40 = 9.1$ , so the difference is a decrease of 3.1 ( $12.2 - 9.1$ ).

d. The turnover will decrease by 12.2.

@ Answer d) is incorrect. This is the old turnover ratio and not what it will change by. Answer b) is correct. The old turnover ratio is 12.2 ( $365/30$ ) and the new turnover ratio is  $365/40 = 9.1$ , so the difference is a decrease of 3.1 ( $12.2 - 9.1$ ).