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ACCTG 211 - Exam 4 - Practice Exam Solutions

1. $\mathbf{D}-\$ 11.80$

This problem is a little unusual because we generally don't know the number of units we will sell without knowing the sales price. This problem implies that we can set the sales price at any price and still sell 3,000 units. In real life things don't work this way;
however, the goal of the problem is to get you to solve for sales price knowing all of the other variables in CVP equation for units sold for a desired net income.

Sales price per unit $=X$
VC per unit = \$8
CM per unit $=\mathrm{X}-\mathbf{\$ 8}$

Total FC = \$2,200
Desired net income $=\mathbf{\$ 9 , 2 0 0}$
Units sold $=\mathbf{3 , 0 0 0}$

Units sold $=(F C+$ Desired NI$) / \mathrm{CM}$ per unit
3,000 = (\$2,200 + \$9,200) / (X - \$8)
X $-\mathbf{\$ 8}=\mathbf{\$ 1 1 , 4 0 0 / 3 , 0 0 0}$
$\mathrm{X}-\mathbf{\$ 8}=\mathbf{\$ 3 . 8 0}$
X = \$11.80
Alternatively, we could use the profit equation to solve for sales price.
Profit $=$ (Sales price)(Units sold) $-($ VC per unit)(Units sold) - Total FC
$\$ 9,200=X(3,000)-(\$ 8)(3,000)-\$ 2,200$
\$9,200 = 3,000X - \$26,200
\$35,400 = 3,000X
X = \$11.80
2. $B$

Cash receipts from customers $=$ Sales revenue - Change in AR
Cash receipts from customers $=\mathbf{\$ 1 0 0 , 0 0 0 - ( - \$ 1 0 , 0 0 0 )}$
Cash receipts from customers = \$110,000
3. C

Cash paid for merchandise $=\mathbf{C O G S}+$ Change in Inventory - Change in $\mathbf{A} / \mathrm{P}$
Cash paid for merchandise = \$121,000 + \$1,000-\$3,000
Cash paid for merchandise = \$119,000
4. B

Cash received from customers $=$ Sales - Change in accounts receivable Cash received from customers = \$1,037,500-\$10,000 = \$1,027,500
5. C

Cash paid to suppliers $=$ COGS + Change in inventory - Change in accounts payable Cash paid to suppliers = \$780,000 + (-\$20,000)-(-\$17,000)=\$777,000
6. D
7. A
8. D
9. $B$
10. C
11. B - If gross profit is $30 \%$ of sales, you know COGS will be $70 \%$ of sales.

$$
\text { COGS = \$120,000 x } 0.7=\$ 84,000
$$

| Inventory |  |  |  |
| :--- | :---: | :---: | :---: |
| B: | $\$ 50,000$ |  |  |
| P: | $?$ | COGS: | $\$ 84,000$ |
| E: | $\$ 20,000$ |  |  |

Purchases = COGS + Ending inventory - Beginning inventory
Purchases = \$84,000 + \$20,000-\$50,000
Purchases = \$54,000
12. A - Manufacturing costs refers to the DM, DL and MOH that go into the WIP account for the period. Cost of goods manufactured refers to the amount that is transferred out of the WIP accounting into the finished goods account.

| WIP |  |  |  |
| ---: | :--- | :--- | :--- |
| B: | $\$ 7,000$ |  |  |
| Manu |  |  |  |
| Costs: | $\$ 8,000$ | COGM: | $\$ 9,000$ |
| E: | $?$ |  |  |

Ending WIP = \$7,000 + \$8,000-\$9,000
Ending WIP = \$6,000
13. C - If shipping costs are under the terms Freight-Out that means the seller will pay for shipping costs. Therefore, this will not be included in the buyer's COGAFS.
14. C

| WIP |  |  |  |
| ---: | :--- | :--- | :--- |
| B: | $\$ 20,000$ |  |  |
| DM: | $\$ 50,000$ | COGM: | $\$ 135,000$ |
| DL: | $\$ 35,000$ |  |  |
| MOH: | $\$ 70,000$ |  |  |
| E: | $\$ 40,000$ |  |  |

15. B

| Inventory |  |  |  |
| :--- | :---: | :--- | :--- |
| B: | $\$ 300,000$ |  |  |
| P: | $\$ 1,500,000$ | COGS: | $\$ 1,400,000$ |
| E: | $\$ 400,000$ |  |  |

Net income $=\mathbf{\$ 2 , 0 0 0 , 0 0 0} \mathbf{-} \mathbf{\$ 1 , 4 0 0 , 0 0 0} \mathbf{- \$ 2 0 0 , 0 0 0}=\mathbf{\$ 4 0 0 , 0 0 0}$
16. B

| Inventory |  |  |  |
| :--- | :---: | :--- | :--- |
| B: | $\$ 4,000$ |  |  |
| P: | $\$ 40,000$ | COGS: | $\$ 41,000$ |
| F: | $\$ 3,000$ |  |  |
| D: | $\$ 2,000$ |  |  |
| E: | $\$ 8,000$ |  |  |

17. B

| Raw Materials |  |  |  |
| :--- | :--- | :--- | :--- |
| B: | $\$ \mathbf{1 0 , 0 0 0}$ |  |  |
| P: | $\$ 60,000$ | RM used: $\$ 50,000$ |  |
|  |  |  |  |
| E: | $\$ 20,000$ |  |  |


| WIP |  |  |  |
| ---: | :---: | :--- | :--- |
| B: | $\$ 40,000$ |  |  |
| DM: | $\$ 50,000$ | COGM: $\$ 310,000$ |  |
| DL: | $\$ 100,000$ |  |  |
| MOH: | $\$ 150,000$ |  |  |
| E: | $\$ 30,000$ |  |  |

18. A

$$
\begin{aligned}
& \text { Jan sales }=\$ 10,000 \\
& \text { Feb sales }=\$ 9,600 \\
& \text { Mar sales }=\$ 8,000 \\
& \\
& \text { Jan COGS }=\$ 4,000 \\
& \text { Feb COGS }=\$ 3,840 \\
& \text { Mar COGS }=\$ 3,200
\end{aligned}
$$

$$
\text { Dec End Inv = \$3,000 (\$4,000 x . } 5 \text { + \$1,000) }
$$

$$
\text { Jan End Inv = \$2,920 (\$3,840 x . } 5 \text { + \$1,000) }
$$

$$
\text { Feb End Inv = \$2,600 (\$3,200 x . } 5+\$ 1,000)
$$

Jan Beg Inv = \$3,000
Feb Beg Inv = \$2,920

Purchases = COGS + End Inv - Beg Inv

Jan Purchases = \$4,000 + \$2,920 - \$3,000 = \$3,920
19. A

Purchases = COGS + End Inv - Beg Inv
Feb purchases $=\mathbf{\$ 3 , 8 4 0} \mathbf{+} \mathbf{\$ 2 , 6 0 0} \mathbf{- \$ 2 , 9 2 0}=\mathbf{\$ 3 , 5 2 0}$
20. C

March cash sales = \$60,000
Apr cash sales = \$32,000

Jan credit sales $=\mathbf{\$ 6 0 , 0 0 0}$
Feb credit sales $=\mathbf{\$ 7 2 , 0 0 0}$
Mar credit sales = \$90,000
Apr credit sales = \$48,000

In Mar we will collect $\mathbf{3 0 \%}$ of the credit sales made in Jan, $40 \%$ of the credit sales in Feb, and $\mathbf{2 0 \%}$ of the credit sales in Mar.

Mar cash for credit sales $=\mathbf{\$ 6 0 , 0 0 0 ( 0 . 3 0 )}+\mathbf{\$ 7 2 , 0 0 0 ( 0 . 4 0 )}+\mathbf{\$ 9 0 , 0 0 0 ( 0 . 2 0 )}=\mathbf{\$ 6 4 , 8 0 0}$
Mar total cash $=\mathbf{\$ 6 0 , 0 0 0}+\mathbf{\$ 4}, 800=\$ 124,800$
21. B

In Apr we will collect 30\% of the credit sales made in Feb, $40 \%$ of the credit sales in Mar, and 20\% of the credit sales in Apr.

Apr cash from credit sales $=\mathbf{\$ 7 2 , 0 0 0 ( 0 . 3 0 )}+\mathbf{\$ 9 0 , 0 0 0 ( 0 . 4 0 )}+\mathbf{\$ 4 8 , 0 0 0 ( 0 . 2 0 )}=\$ 67,200$
Apr total cash $=\mathbf{\$ 3 2 , 0 0 0} \mathbf{+} \mathbf{\$ 7 , 2 0 0}=\mathbf{\$ 9 9 , 2 0 0}$
22. A - Since James is a clothing manufacturer, it uses these materials when producing its finished goods inventory. Therefore, you should classify any materials that have not yet been used in the manufacturing process as raw materials inventory.
23. C-Advertising is not a cost incurred in the actual production of the sneakers. Labor used, depreciation of machines used, and rubber used are all costs that directly trace to the production of the sneaker; advertising is not one of these.
24. $\mathbf{D}$ - The first three costs are inventoriable costs, as they are incurred during the production process and are included in the inventory account and expensed to cost of goods sold. The salary of a CEO is an indirect period cost because it is not included in the cost of inventory, but rather immediately expensed to the income statement.
25. C - The lumber used in the production of tables is considered direct material, and therefore should be considered in the cost of inventory.
26. C

Total Costs per unit= 500,000 fixed costs/ 100,000 units sold + \$ $\mathbf{+} \mathbf{\$ 1 1}=\mathbf{\$ 2 1 / p e r ~ u n i t}$
27. C - Assuming we produce within our relevant range, our total fixed costs will not be affected by the number of units we produce since they are "fixed" and do not change.
28. B - As our total production increases, our total fixed costs will stay the same. Therefore, the total fixed cost allocated per unit will decrease as more units are produced.
29. B

Inventory Required - Beginning Inventory= Purchases
$36,000-15,000=21,000$
30. B

| Beginning Cash | $\$ 2,000$ |
| :--- | ---: |
| + Cash Collections | $\$ 12,000$ |
| - Cash Available on Hand | $\$ 14,000$ |
| - (Payments) | $(\$ 14,500)$ |
| = Cash Prior to Financing | $\mathbf{( \$ 5 0 0 )}$ |
| + Cash to borrow: | $\$ 3,500$ |
| Minimum balance | $\$ 3,000$ |

31. $\mathbf{C}$ - Think about your contribution margin equations when answering this problem. The best thing to do is make up numbers and plug them into the equation to see what happens. In this case you will see that if FC are cut in half, your BE point will also be cut in half.
32. A - This will lower your CM which causes BE to increase
33. A

CML = \$50
$\mathrm{CMs}=\$ 30$
Weighted CM = (1/5)(\$50) + (4/5)(\$30)=\$34
34. B

CM large = \$60
CM large ratio = \$60/\$80 = . 75
CM small = \$35
CM small ratio = \$35/\$50 = .7

Weighted CM ratio $=(2 / 5)(.75)+(3 / 5)(.7)=.72$
Breakeven sales dollars = \$950/.72 = \$1,319
35. B - Cost incurred after the split-off point
36. A
$m=220,000-110,000 / 50,000-20,000=3.67$
$Y=\mathbf{m x}+\boldsymbol{b}$
$220,000=3.67(50,000)+b$
$b=36,500$
37. B

CM/unit = Sales Price/Unit - VC/unit $16-(4+5+\{2 \times .5\})=6 /$ unit
38. C

CM ratio= CM/Sales

CM= Sales - Variable Costs
CM=1,000,000-400,000
CM= 600,000
$C M$ ratio $=600,000 / 1,000,000=0.60=60 \%$
39. C

CM = \$45-\$32 = \$13

BE units $=\mathbf{\$ 1 0 4 , 0 0 0 / \$ 1 3 = 8 , 0 0 0}$
40. C

CM Ratio = \$13 / \$45 = . 2888889

BE dollars $=\mathbf{\$ 1 0 4 , 0 0 0 /} .2888889=\$ 360,000$
41. B - we think we can sell 5,000 units and we only need to sell 2,045 units to BE so we will accept the project.

BE units = \$45,000 / \$22 = 2,045
42. A
$C M=\$ 50-\$ 20=\$ 30$

Sales in units =(\$13,500+\$12,000)/\$30=850
43. C

Profit $=\mathbf{\$ 5 0}(\mathbf{1 0 , 0 0 0})-\mathbf{\$ 2 0}(\mathbf{1 0 , 0 0 0})-\mathbf{5 0 , 0 0 0}=\mathbf{\$ 2 5 0 , 0 0 0}$
44. B

BE units = FC / CM per unit
$10,000=\$ 550,000 / \mathrm{CM}$ per unit
CM per unit = \$55
45. C

CM = \$30 - \$10 = \$20

BE units = FC / CM per unit
BE units = \$30,000 / \$20=1,500
46. B

CM ratio = \$20 / \$30 = 0.666667

BE dollars $=\mathbf{\$ 3 0 , 0 0 0} / 0.666667=\$ 45,000$
47. C

CM per unit= Sales Price- Variable Cost per unit

Variable Costs= 500,000 x .8=400,000
400,000/80,000= \$5 per unit
CM/unit= \$12-\$5=\$7
48. B

Fixed Costs $=500,000 \times .2=100,000$

Fixed Costs per unit = 100,000/80,000 units sold = \$1.25
49. B

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80,000 units = ($100,000 + Profit) / $7
Profit = $460,000
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50. D

Profit Margin= Net Profit/Net Sales
\$460,000 / \$960,000= . 479 = 47.9\%
51. B - Fixed cost per unit will decrease as production increases since fixed costs are now allocated over more units.
52. C - Although total variable costs are based off of production level, variable cost per unit will remain the same even as production levels change.
53. B

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\(m=(\$ 12,000-\$ 9,000) /(1,500-1,000)=\$ 6\) per call
\(y=\$ 6 x+b\)
\(\$ 12,000=\$ 6(1,500)+b\)
b \(=\$ 3,000\)
\(y=\$ 6 x+\$ 3,000\)
\(y=\$ 6(1,200)+\$ 3,000\)
\(\mathrm{y}=\mathbf{\$ 1 0 , 2 0 0}\)
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54. D - Total fixed costs because total fixed costs and total costs are equal when zero units are produced.
