

Exercise E22-5

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(a)	Sales	\$81,000	\$30.00	100%
	Variable	<u>56,700</u>	<u>21.00</u>	<u>70%</u>
	Cont Margin	<u><u>\$24,300</u></u>	<u><u>\$ 9.00</u></u>	<u><u>30%</u></u>

(b)

Sales	=	Fixed Costs	+	Variable Costs
S	=	\$18,000	+	.70S
S) .70S	=	\$18,000		
.30S	=	\$18,000		
S	=	\$60,000		

Alternate:

S	=	<u>FC</u>
		CMR
S	=	<u>\$18,000</u>
		30%
S	=	\$60,000

In units:

S^u	=	<u>S^{\$}</u>
		sales price per unit
S^u	=	<u>\$60,000</u>
		\$30
S^u	=	2,000 units

Exercise E22-5 (continued)

$$(c) \quad MS = \frac{S^A - S^{BE}}{S^A}$$

$$MS = \frac{\$81,000 - \$60,000}{S^A}$$

$$MS = \frac{\$81,000 - \$60,000}{\$81,000}$$

$$MS = \frac{\$21,000}{\$81,000}$$

$$MS = 26\%$$

Exercise E22-6

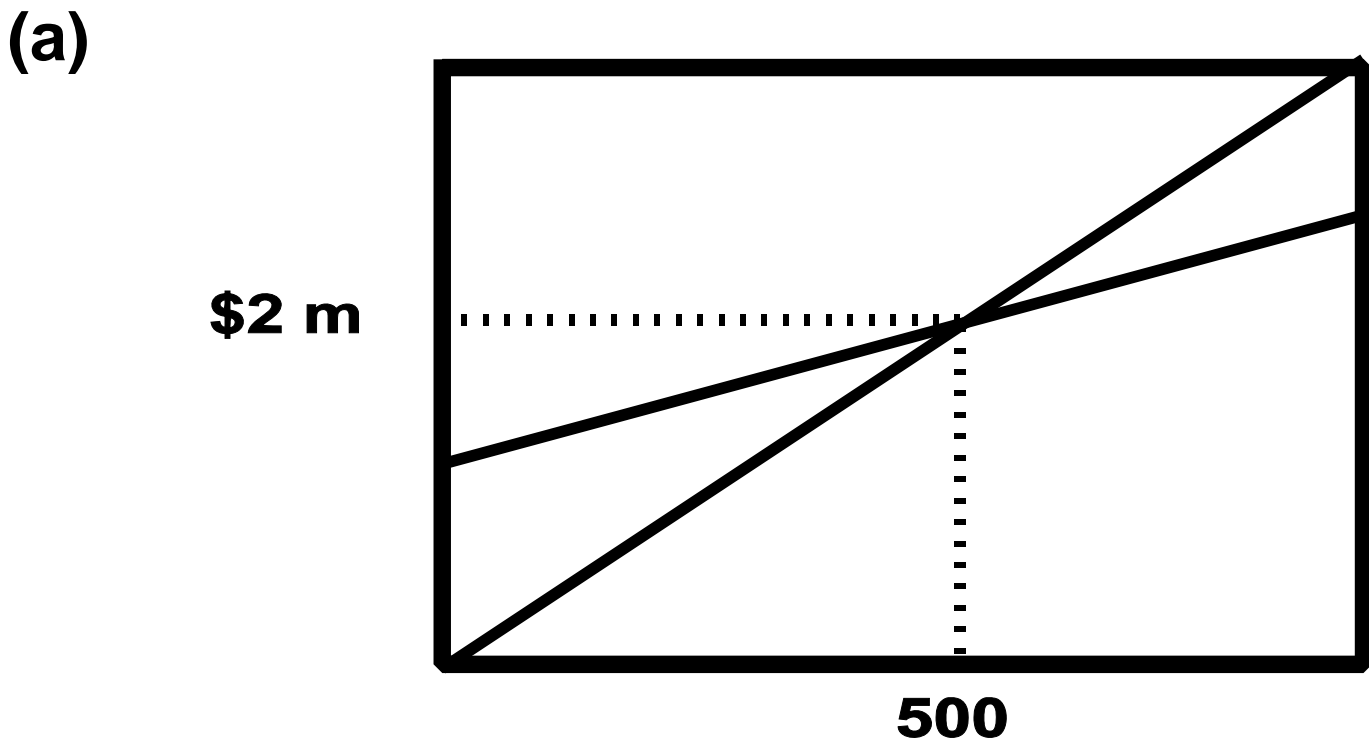
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$$\begin{aligned}
 \text{(b) (2)} \quad S &= FC + VC \\
 S &= \$800,000 + .60S \\
 S - .60S &= \$800,000 \\
 .40S &= \$800,000 \\
 S &= \$2,000,000
 \end{aligned}$$

$$\text{(b) (1)} \quad S^u = \frac{S^\$}{\text{sales price per unit}}$$

$$S^u = \frac{\$2,000,000}{\$4}$$

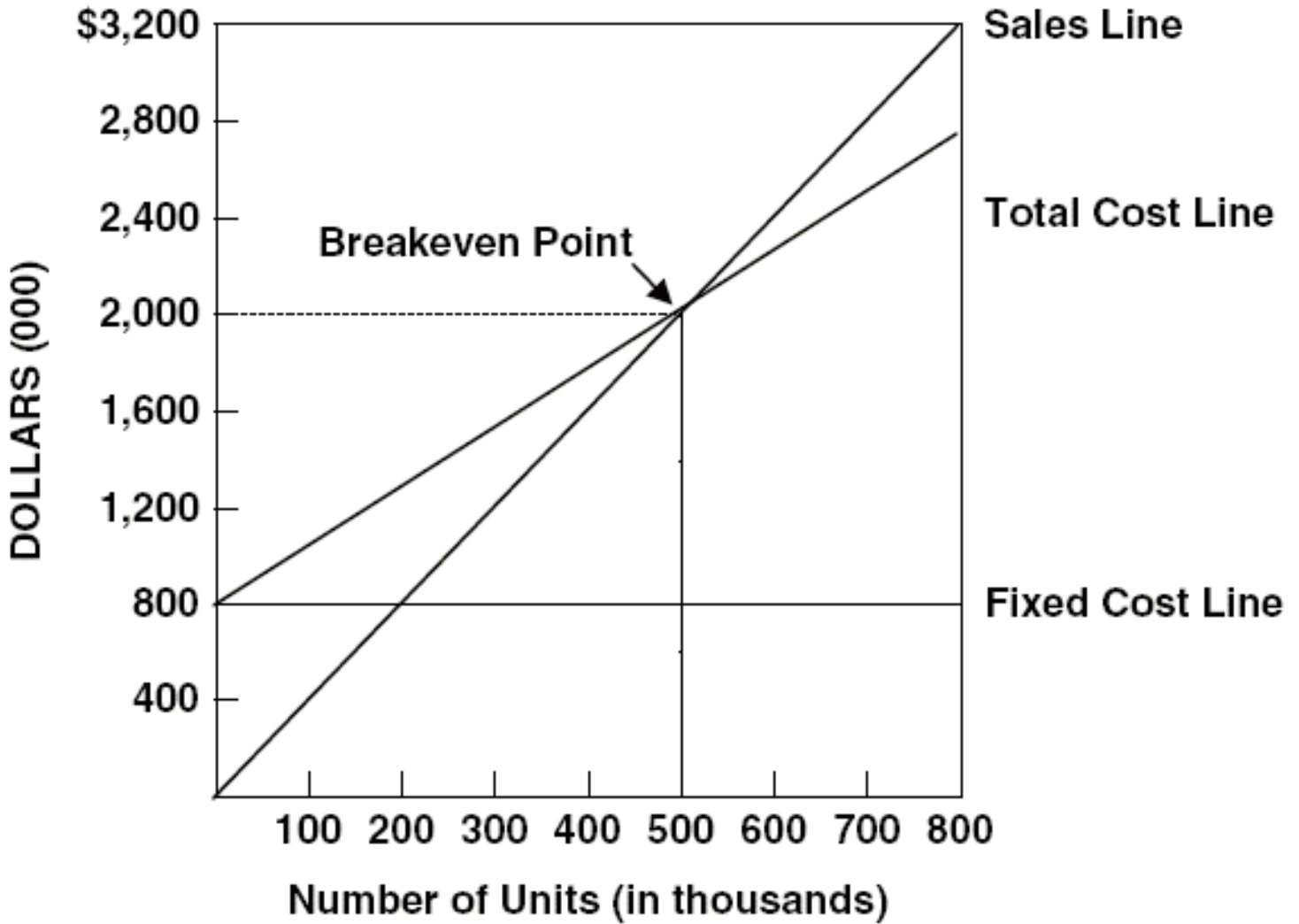
$$S^u = 500,000 \text{ units}$$



Exercise E22-6

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(a)



Exercise E22-6 (continued)

$$(c)(1) \quad M\$ = S^A - S^{BE}$$

$$MS\% = \frac{S^A - S^{BE}}{S^A}$$

$$M\$ = \$2.5m - \$2.0m$$

$$M\$ = \$500,000$$

$$MS\% = \frac{\$500,000}{\$2.5m}$$

$$MS\% = 20\%$$

Exercise E22-13
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(a)

$$S = FC + VC + TNI$$

$$S = \$570,000 + .60S + \$150,000$$

$$S - .60S = \$570,000 + \$150,000$$

$$.40S = \$720,000$$

$$S = \$1,800,000 \quad \text{present sales in dollars}$$

$$\frac{\$1,800,000}{\$150} = 12,000 \text{ units}$$

(b)

$$S = FC + VC + TNI$$

$$S = \$570,000 + .60S + \$210,000$$

$$S - .60S = \$570,000 + \$210,000$$

$$.40S = \$780,000$$

$$S = \$1,950,000 \quad \text{sales needed}$$

$$\frac{\$1,950,000}{\$150} = 13,000 \text{ units}$$

Exercise E22-13
(continued)

$$\begin{aligned} \text{(c)} \quad S^U &= \frac{FC + TNI}{CM^U} \\ 12,000^U &= \frac{\$570,000 + \$210,000}{(X - \$90)} \\ 12,000(X - \$90) &= \$780,000 \\ (X - \$90) &= \frac{\$780,000}{12,000} \\ (X - \$90) &= \$65 \\ X &= \$155 \quad \text{(required sales price per unit)} \end{aligned}$$

Exercise E23-14

page 1042

Present

Sales	\$350,000
VC	<u>210,000</u>
CM	\$140,000
FC	<u>90,000</u>
NI	<u>\$ 50,000</u>

1. Increase selling price by 10%

Sales	\$385,000
VC (no change?)	<u>210,000</u>
CM	\$175,000
FC	<u>90,000</u>
NI	<u>\$ 85,000</u>

2. Reduce VC to 55% of sales

Sales	\$350,000
VC (55% x \$350,000)	<u>192,500</u>
CM	\$157,500
FC	<u>90,000</u>
NI	<u>\$ 67,500</u>

3. Reduce FC by \$10,000

Sales	\$350,000
VC	<u>210,000</u>
CM	\$140,000
FC	<u>80,000</u>
NI	<u>\$ 60,000</u>

Exercise E22-15
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Yeltsin Company
Income Statement - VARIABLE Costing
Present Conditions
For the Year Ended December 31, 2012

Sales (60,000 x \$25)	\$1,500,000
Variable Costs (60,000 x \$14)	<u>840,000</u>
Contribution Margin	\$ 660,000
Fixed Costs	<u>500,000</u>
Income from Operations	<u>\$ 160,000</u>

Proposed Conditions

Sales (\$25 - \$1.40 = \$23.60) x (60,000 x 1.07 = 64,200)	\$1,515,120
Variable Costs (64,200 x \$11.20)	<u>719,040</u>
Contribution Margin	\$ 796,080
Fixed Costs (\$500,000 + \$60,000)	<u>560,000</u>
Income from Operations	<u>\$ 236,080</u>

Brief Exercise BE22-6
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$$\begin{aligned}
 \text{(a) Sales} &= \text{Fixed Costs} + \text{Variable Costs} \\
 S &= \$210,000 + (260/400)S \\
 S &= \$210,000 + .65S \\
 S - .65S &= \$210,000 \\
 .35S &= \$210,000 \\
 S &= \$600,000
 \end{aligned}$$

$$\begin{aligned}
 \text{(b)} \quad S &= \frac{FC}{UCM} \\
 S &= \frac{\$210,000}{(400 - 260)} \\
 S &= \frac{\$210,000}{\$140} \\
 S &= 1,500 \text{ units}
 \end{aligned}$$

Brief Exercise BE23-8
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$$MS = \frac{S^A - S^{BE}}{S^A}$$

$$MS = \frac{\$1.2m - \$900,000}{\$1.2m}$$

(a)
$$MS = \frac{\$300,000}{\$1.2m}$$

(b)
$$MS = 25\%$$

Brief Exercise BE22-9
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Sylvia Manufacturing, Inc.
Income Statement - VARIABLE Costing
For the Quarter Ended March 31, 2012

Sales		\$1,800,000
Variable Costs		<u>760,000</u>
Manufacturing Margin		\$1,040,000
Variable Expenses (95 + 79)		<u>174,000</u>
Contribution Margin		\$ 866,000
Fixed Costs	\$540,000	
Fixed Expenses (60+66)	<u>126,000</u>	<u>666,000</u>
Income from Operations		<u><u>\$ 300,000</u></u>

Brief Exercise BE23-7

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Compute the PRESENT breakeven point.

$$\begin{array}{rclcl} \text{Sales} & = & \text{Fixed Costs} & + & \text{Variable Costs} \\ S & = & \$210,000 & + & .70S \\ S - .70S & = & \$210,000 & & \\ .30S & = & \$210,000 & & \\ S & = & \$700,000 & & \end{array}$$

Compute the req sales to achieve mgt's TNI.

$$\begin{array}{rclclcl} \text{Sales} & = & \text{FC} & + & \text{VC} & + & \text{TNI} \\ S & = & \$210,000 & + & .70S & + & \$60,000 \\ S - .70S & = & \$210,000 & + & & + & \$60,000 \\ .30S & = & \$270,000 & & & & \\ S & = & \$900,000 & & & & \end{array}$$