

Exercise - Walk Rite Shoe Company **SOLUTIONS**

Initial data:	\$
SPU	30.00
Variable costs:	
Cost of shoes	19.50
Sales commissions	1.50
VCU	21.00
Fixed costs:	
Rent	60,000
Salaries	200,000
Advertising	80,000
Other fixed costs	20,000
Total FC	360,000

Required:

1. What is the annual breakeven point in (a) units sold and (b) revenues?

CMU = SPU - VCU = \$30 - \$21	\$9
BEP (in units sold) = FC / CMU = \$360,000/\$9	40,000
BEP (in revenues) = BEP (units) x SPU = 40,000 x \$30	\$1,200,000

2. If 35,000 units are sold, what will be the store's operating income (loss)?

Units sold = 35,000	35,000
Operating income = TR - TC	
TR = SPU x Q = \$30 x 35,000	\$1,050,000
VC = VCU x Q = \$21 x 35,000	\$735,000
Contribution margin (TR - VC)	\$315,000
FC = \$360,000	\$360,000
Operating income = CM - FC	-\$45,000

3. If sales commissions were discontinued for individual salespeople in favour of an \$81,000 increase in fixed salaries, what would be the annual breakeven point in (a) units sold and (b) revenues?

Change in VCU (only cost of shoes, no commissions)	\$19.50
Change in FC (\$360,000 + \$81,000)	\$441,000
CMU = SPU - VCU = \$30 - \$19.5	\$10.50
BEP (in units sold) = FC / CMU = \$441,000/\$10.5	42,000
BEP (in revenues) = BEP (units) x SPU = 42,000 x \$30	\$1,260,000

4. Refer to the original data. If the store manager were paid \$0.30 per unit sold in addition to his current fixed salary, what would be the annual breakeven point in (a) units sold and (b) revenues?

Change in VCU (extra commission \$0.30)	\$0.30
New VCU (\$21 + \$ 0.3)	\$21.30
CMU = SPU - VCU = \$30 - \$21.30	\$8.70
BEP (in units sold) = FC / CMU = \$360,000/\$8.7	41,379.31
BEP (in revenues) = BEP (units) x SPU = 41,379 x \$30	\$1,241,379

5. Refer to the original data. If the store manager were paid \$0.30 per unit commission on each unit sold in excess of the breakeven point, what would be the store's operating income if 50,000 units were sold? (This \$0.30 is in addition to both the commission paid to the sales staff and the store manager's fixed salary.)

Sales commission over BEP (\$ 0.30 over 40,000 units)	\$0.30
BEP units	40,000
Units sold	50,000
Extra units sold (difference)	10,000

Operating income:

TR = SPU x Q = \$30 x 50,000	\$1,500,000	
VC = VCU x Q = (\$21 x 50,000) + (\$0.3 x 10,000)		
Cost of shoes (\$19.5 x 50,000)	\$975,000	60000
Sales commission (\$1.5x50,000)	\$75,000	18000
Manager commission (0.3 x 10,000)	\$3,000	78000
Contribution margin (TR-VC)	<u>\$447,000</u>	
FC = \$360,000	<u>360,000</u>	
Operating income = CM - FC = \$447,000 - \$360,000	<u>\$87,000</u>	

Alternatively:

Operating income = CMU x extra units sold = \$8.7 x 10,000	\$87,000
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