

# Calculation of contribution margin per unit and machine- hour for md widgets essay...



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MD Widgets manufactures three different product lines, Model X, Model Y, and Model Z. Considerable market demand exists for all models. The following per unit data apply:

Model X	Model Y	Model Z	
Selling price	\$80	\$90	\$100
Direct materials	\$30	30	30
Direct labor (\$10/hour)	\$15	15	20
Variable support costs (\$5 per machine-hour)	\$5	10	10
Fixed support costs	20	20	20

a) For each model, compute the contribution margin per unit. b) For each model, compute the contribution margin per machine-hour. c) If there is excess capacity, which model is the most profitable to produce? Why? d) If there is a machine breakdown, which model is the most profitable to produce? Why? e) How can MD encourage her sales people to promote the more profitable model?

Solution:

MODEL X	MODEL Y	MODEL Z	
Selling price	\$ 80	\$ 90	\$ 100
Direct materials	\$ 30	\$ 30	\$ 30
Direct labor (\$10 per hour)	\$ 15	\$ 15	\$ 20
Variable support costs (\$5 per machine-hour)	\$ 5	\$ 10	\$ 10
Total variable cost	\$ 50	\$ 55	\$ 60
Fixed support costs	\$ 20	\$ 20	\$ 20

Contribution margin per unit = Selling price per unit - Variable cost per unit

\$ 30 \$ 35 \$ 40 Contribution margin per machine hour

\$ 30 \$ 18 \$ 20

a) The contribution margin per unit for :

Model X = \$ 30

Model Y = \$ 35

Model Z = \$ 40

b) The contribution margin per machine-hour for:

Model X = \$ 30

Model Y = \$ 35

Model Z = \$ 40

c) If there is excess capacity, which model is the most profitable to produce?

Why? Model Z is more profitable since its contribution margin is greater than the other two models which will result in excess profit.

d) If there is a machine breakdown, which model is the most profitable to produce? Why?

Model X is more profitable at times of machine break-down since the machine hour required per unit is 1, whereas for the other two models 2

machine hours are required

e) How can MD encourage her sales people to promote the more profitable model? By introducing a sales commission depending on the most profitable model, MD can encourage her sales people to promote and sell the most profitable model

References:

<http://classof1.com/homework-help/accounting-homework-help>

<https://assignbuster.com/calculation-of-contribution-margin-per-unit-machine-hour-for-md-widgets-essay-sample/>