

**Margin and Markup Exercise**  
**BUSI 101B**

Please complete the problems below on markup and margin. Remember that a markup is taking the cost of the item and increasing it by a percentage of that cost (e.g., marking up an item that costs \$100 by 25% would result in a price of \$125 ( $\$100 \times 1.25$ )). A margin is stated as the percentage of a retail price that is above the cost. So, for the same example, if an item's retail price is \$125 and it costs \$100, the margin is 20% ( $[(125-100)/125 = 20\%]$ )

- (1) If the cost of an item is \$72 and it has a retail price of \$89, what is the margin?

*Please round your answer to the nearest tenth of a percent*

$$\text{Margin} = (\text{Price} - \text{Cost})/\text{Price} = (89-72)/89 = 19.1\%$$

- (2) For the same example as (1), what is the markup if the price is \$89 and the cost is \$72?

*Please round your answer to the nearest tenth of a percent*

$$\text{Markup} = (\text{Price} - \text{Cost})/\text{Cost} = (89-72)/72 = 23.6\%$$

- (3) Bev Smith makes hand-braided mats, at a cost of \$40 per mat, to sell at local craft shows. She has 30 mats on hand for the next show, and expects to sell them all for a total of \$1,800. What is Bev's markup per mat in dollar and percentage terms?

*Please round your answer to the nearest tenth of a percent*

$$\text{Retail Price} = \$1800/30 \text{ units} = \$60/\text{unit}$$

$$\text{Cost} = \$40/\text{unit}$$

$$\text{Bev's Markup} = (\text{Price} - \text{Cost})/\text{Cost} = (60-40)/40 = 50.0\%$$

$$\text{Bev's \$ Markup} = \text{Price} - \text{Cost} = \$20$$

- (4) A convenience store buys 1-gallon jugs of milk for \$2.99 and sells them for \$4.29. What is the margin they earn on the milk?

*Please round your answer to the nearest tenth of a percent.*

$$\text{Retail Price} = \$4.29/\text{unit}$$

$$\text{Cost} = \$2.99/\text{unit}$$

$$\text{Margin} = (\text{Price} - \text{Cost})/\text{Price} = (4.29 - 2.99)/4.29 = 30.3\%$$

- (5) Suzie's Flowers purchases a wide variety of houseplants. One of Suzie's favorites, the large split leaf philodendron, costs \$13.50 from the wholesaler and requires an additional \$1.00 per plant to take care of and then package prior to sale. Suzie's normal markup on houseplants is 55%. What would be the retail selling price of a large split leaf philodendron? *Fully support your answers mathematically.*

Wholesale Cost = \$13.50/unit

Retail Price = (Cost + \$1 maintenance) \* (1+Markup %) = (\$13.50 + 1) \* 1.55 = \$22.48

- (6) A manufacturer sells a 3-person tent to its wholesalers for \$59.95. Wholesalers take a markup on selling price of 15% and sell to retailers who take a markup on selling price of 45%. How much does this tent cost you?

*Please round your answers to the nearest cent before continuing.*

Cost = \$59.95/unit

Wholesale Price = Cost \* (1+Markup %) = \$59.95\*1.15 = \$68.94

Retail Price = Wholesale Price \* (1+Markup %) = \$68.94\*1.45 = \$99.96

The tent would cost me \$99.96.

- (7) An analysis of the competition suggests the average retail selling price of an electronic game is \$89. The owner of a computer accessories store has a chance to purchase 5 dozen of these games at a delivered cost of \$55 per unit. Her normal margin on electronic games is 35%. Should she make the purchase? Why? Why not?

*Fully support your answers mathematically.*

Retail Price = \$89/unit

Cost = \$55/unit

Margin = (Price - Cost)/Price = (89 - 55)/89 = 38.2%

If she continues to have a margin of 35%, then Price = Cost/(1 - Margin %) = 55/(1-0.35) = \$84.62. If she wishes to round it to a whole number, she can still make her 35% margin and charge less than the competitors. Or, if she charges 89, she will have a higher margin of 38.2%, so I recommend she does it as she should be able to sell the games (assuming a demand of 60 units isn't too many to sell).

- (8) An auto parts manufacturer sells fan belts to its distributors for \$10.95. Typical distributor markups are 20% and typical gas station markups are 40%. How much would you have to pay for a fan belt? *Please round your answers to the nearest cent before continuing.*

Cost = \$10.95/unit

Distributor Price = Cost \* (1+Markup %) = \$10.95\*1.20 = \$13.14

Gas Station Retail Price = Distributor Price \* (1+Markup %) = \$13.14\*1.4 = \$18.40

A fan belt would cost me \$18.40.

- (9) The ABC Corporation has the following financials to report: Net Sales \$55,400

- Gross Profit \$23,500
- Operating Profit \$11,200
- Net Profit \$6,700

Calculate both the firm's Operating Margin and Gross Margin. *Please round your answer to the nearest tenth of a percent.*

Operating Margin = Operating Profit/Net Sales = 11,200/55,400 = 20.2%

Gross Margin = Gross Profit/Net Sales = 23,500/55,400 = 42.4%

- (10) At Bovine Industries, last year they had net sales of \$25,300, gross profit of \$21,400, operating profit of \$13,800, and net profit of \$9,300.

Calculate both the firm's Net Margin and Operating Margin. *Please round your answer to the nearest tenth of a percent.*

Net Margin = Net Profit/Net Sales = 9,300/25,300 = 36.8%

Operating Margin = Operation Profit/Net Sales = 13,800/25,300 = 54.5%