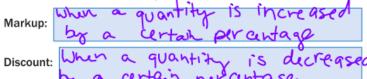
7.6 Percent Applications

Goal: Find markups, discounts, sales tax, and tips.

Vocabulary

Markup:



retau Wholesale Price COST

Example 1 Finding a Retail Price

Pillows A store buys decorative pillows from a manufacturer for \$2 each. The store marks up the price by 400%. What is the retail price?

Solution wholesale

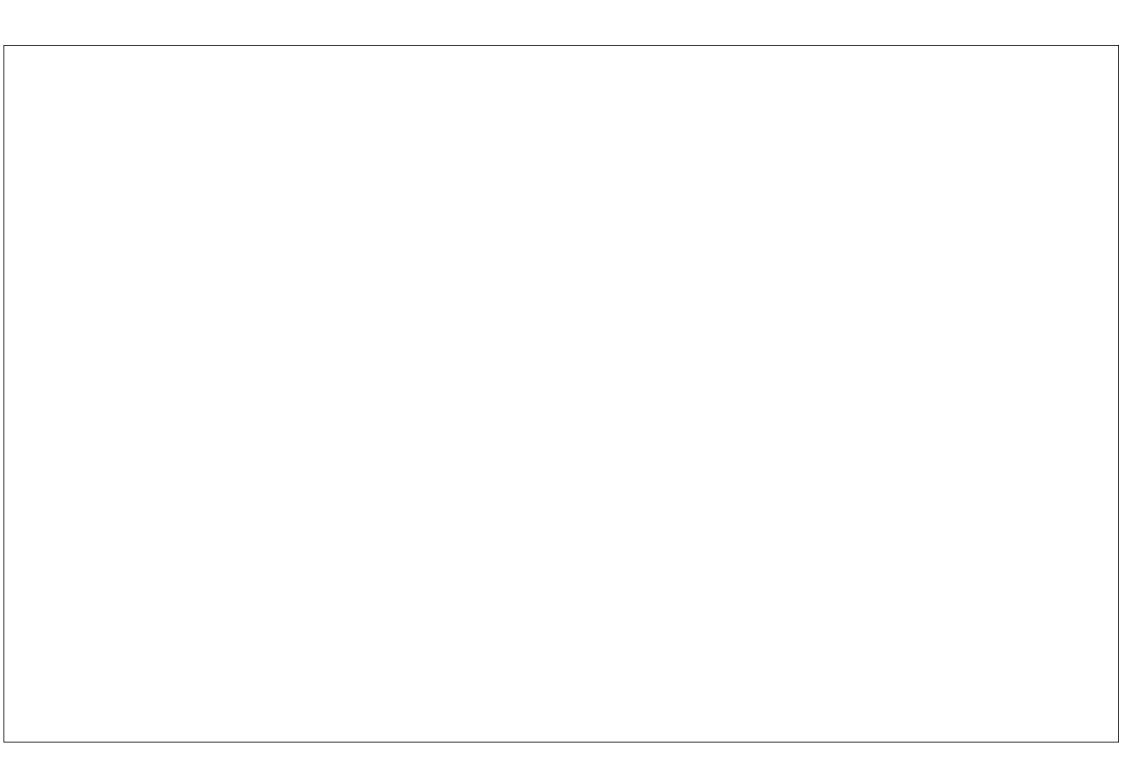
Method 1 Add the markup to the wholesale price.

Retail price = Wholesale price + Markup

Method 2 Multiply the wholesale price by (100% + Markup percent).

Retail price = Wholesale price • (100% + Markup percent)

Answer: The retail price of a decorative pillow is \$



Example 2 Finding a Sale Price

Backpack You buy a backpack that is on sale for 25% off the original price of \$20. What is the sale price?

Solution

Method 1 Subtract the discount from the original price. In [1]

Sale price = Original price - Discount

Write 37 as a decimal.

Multiply.

Subtract.

Method 2 Multiply the original price by (100% - Discount percent). 10011 Sale price = Original price • (100% - Discount percent)

Multiply.

Answer: The sale price of the backpack is \$ 5.

Checkpoint

1. In Example 1, what is the retail price of a decorative pillow if the markup percent is 250%? 2+ (250). 2)

$$2+(2.5\cdot2)$$
 $2\cdot3.5$

2. A pair of shorts that originally costs \$15 is 40% off. Find the sale price.

Example 3 Using Sales Tax and Tips

Pizza You order pizza to be delivered. The bill is \$18. You give the delivery person a 15% tip. The sales tax is 5%. What is the total cost of the pizza?

Solution

Sales tax and tips are calculated using a percent of the purchasing price. These amounts are then added to the purchase price.

Total = Food bill + Sales tax + Tip

=
$$8 + 54 \cdot 8 + 52 \cdot 8$$
 Substitute.

= $8 + 0.05 \cdot 8 + 0.15 \cdot 8$ Substitute.

Write percents as decimals.

= $8 + 0.90 + 2.70$ Evaluate.

Answer: The total cost of the pizza is \$ 2/.60

Checkpoint

3. In Example 3, find the total cost of the pizza if the tip is 20%.

Example 4 Finding an Original Amount

Blender A store marks up the wholesale price of a blender by 125%. The retail price is \$30. What is the wholesale price?

Solution

Let x represent the wholesale price.

Retail price = Wholesale price • (100% + Markup percent)

$$= x \cdot (100\% + 25\%)$$
 Substitute.

$$30 = x \cdot 225$$
Add percents.

$$2.27 \cdot 30 = x \cdot 2.25 / 2.25$$
Write 2257 as a decimal.

Divide each side by 2.25

$$3.33 \approx x$$
 Divide each side by 2.3

Answer: The wholesale price of the blender is about \$ 3 3