

Key

Pre-Algebra
Unit 8: Percent
8.4: Percent Applications

Find the sale price or the retail price.

1. \$99 watch with a 40% discount

$$\begin{aligned} \text{Sale} &= \text{original} - \text{discount} \\ &= 99 - (.40 * 99) \\ &= 99 - 39.60 \\ &= \$59.40 \end{aligned}$$

2. \$32 earrings marked up 80%

$$\begin{aligned} \text{Retail} &= \text{wholesale} + \text{markup} \\ &= 32 + (.80 * 32) \\ &= 32 + (25.60) \\ &= \$57.60 \end{aligned}$$

3. \$59 cell phone with a 10% discount

$$\begin{aligned} \text{Sale} &= \text{original} - \text{discount} \\ &= 59 - (.10 * 59) \\ &= 59 - 5.90 \\ &= \$53.10 \end{aligned}$$

4. \$65 digital camera marked up 50%

$$\begin{aligned} \text{Retail} &= \text{wholesale} + \text{markup} \\ &= 65 + (.50 * 65) \\ &= 65 + 32.50 \\ &= \$97.50 \end{aligned}$$

5. \$35 soccer cleats marked up 95%

$$\begin{aligned} \text{Retail} &= \text{wholesale} + \text{markup} \\ &= 35 + (.95 * 35) \\ &= 35 + 33.25 \\ &= \$68.25 \end{aligned}$$

Find the original price.

6. swimsuits discounted 60% on sale for \$20.30

Hint: The sale price = 40% of the original

$$\begin{aligned} \text{Sale} &= \text{original} - \text{discount} \\ 20.30 &= X - (.60 * X) \\ 20.30 &= .40 X \\ \$50.75 &= X \end{aligned}$$

7. tennis racket marked up 50% to \$36.75

Hint: you're paying 150% of the original

$$\begin{aligned} \text{Retail} &= \text{wholesale} + \text{markup} \\ 36.75 &= X + (.50 * X) \\ 36.75 &= 1.5 X \\ \$24.50 &= X \end{aligned}$$

8. backpack discounted 10% on sale for \$37.80

Hint: The sale price = 90% of the original

$$\begin{aligned} \text{Sale} &= \text{original} - \text{discount} \\ 37.80 &= X - (.10 * X) \\ 37.80 &= .9 X \\ \$42 &= X \end{aligned}$$

9. tickets marked up 35% to \$59.40

HINT: you're paying 135% of the original

Retail = wholesale + markup

$$59.40 = x + (.35 * x)$$

$$59.40 = 1.35x$$

$$\boxed{\$44 = x}$$

10. perfume discounted 25% on sale for \$27

HINT: you're paying 75% of the original.

Sale = original - discount

$$27 = x - (.25 * x)$$

$$27 = .75x$$

$$\boxed{\$36 = x}$$

Find the percent of discount or markup.

11. \$52 sweater on sale for \$31.20

\$20.80 is what percent of 52?

$$20.80 = \frac{x}{100} * 52$$

$$.4 = \frac{x}{100}$$

40% discount

12. \$23 rollerblades marked up to \$41.40

\$18.40 is what percent of 23?

$$18.40 = \frac{x}{100} * 23$$

$$.8 = \frac{x}{100}$$

80% markup

13. \$30 board games on sale for \$20.10

\$9.90 is what percent of 30?

$$9.9 = \frac{x}{100} * 30$$

$$.33 = \frac{x}{100}$$

33% discount

14. \$0.60 bottle of iced tea marked up to \$1.35

\$.75 is what percent of .60?

$$.75 = \frac{x}{100} * .6$$

$$1.25 = \frac{x}{100}$$

125% markup

15. \$3.50 nail polish marked up to \$8.75

\$5.25 is what percent of 3.50?

$$5.25 = \frac{x}{100} * 3.50$$

$$1.5 = \frac{x}{100}$$

150% markup

$$\begin{array}{r} \$52.00 \\ - 31.20 \\ \hline \$20.80 \\ \text{saved} \end{array}$$

$$\begin{array}{r} \$41.40 \\ - 23.00 \\ \hline \$18.40 \\ \text{marked up} \end{array}$$

$$\begin{array}{r} \$30.00 \\ - 20.10 \\ \hline \$9.90 \\ \text{saved} \end{array}$$

$$\begin{array}{r} \$1.35 \\ - .60 \\ \hline \$.75 \\ \text{markup} \end{array}$$

$$\begin{array}{r} \$8.75 \\ - 3.50 \\ \hline \$5.25 \\ \text{markup} \end{array}$$