



9-9 Using Percent Equations (Pages 467–471)

Interest (I) is money earned or paid for the use of an amount of money, called the **principal** (p), at a stated rate (r), or percent, for a given amount of time (t). Interest can be calculated using the formula $I = prt$. Another common use of percent is with a **discount**, or amount of money deducted from a price.

Percent Equation	The formula is $P = R \cdot B$, where P is the percentage, R is the rate as a decimal, and B is the base, is usually easier to use when the rate and base are known.
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EXAMPLES

A What is the discount if a \$6.40 item is on sale for 30% off?

Write in $P = R \cdot B$ form.

What is 30% of \$6.40?

$$P = 0.30 \times 6.40$$

$$P = 1.92$$

The discount is \$1.92.

B Find the interest on \$460 invested at 8% annually for 2 years.

$$I = prt$$

Interest formula

$$I = (460)(0.08)(2) \quad p = 460, r = 8\% \text{ or } 0.08, t = 2$$

$$I = 73.6$$

The interest is \$73.60.

Try These Together

1. Use $P = R \cdot B$ to find what percent 34 is of 80.

HINT: Replace P with 34 and B with 80.

2. What is the discount if a \$45 item is on sale at 15% off?

HINT: To find 15% of \$45, multiply \$45 by 0.15.

PRACTICE

Solve each problem by using the percent equation, $P = R \cdot B$.

- 3. 56 is what percent of 64?
- 4. 70 is 40% of what number?
- 5. 30 is 60% of what number?
- 6. What is 33% of 60?
- 7. What is 40% of 350?
- 8. Find 60% of \$8.99.

Find the discount or interest to the nearest cent.

- 9. \$3.99 socks, 40% off
- 10. \$250 desk, 30% off
- 11. \$15 wrist watch, 75% off
- 12. \$20 telephone, 25% off
- 13. \$1400 at 2% interest monthly for 30 months
- 14. \$650 at 9% interest annually for 2 years



15. Standardized Test Practice After October 31, you find the holiday candy marked down 70%. How much money would you save if your favorite candy regularly costs \$2.99?

- A** \$2.29
- B** \$2.09
- C** \$0.90
- D** \$0.70

13. \$840 14. \$117 15. B Answers: 1. 42.5% 2. \$6.75 3. 87.5% 4. 175 5. 50 6. 19.8 7. 140 8. \$5.39 9. \$1.60 10. \$75 11. \$11.25 12. \$5
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