NAME _____ DATE _____

5-4 The Percent Equation (Pages 204–209)

The equation $P = RB$ is called the **percent equation**. In this equation, R is the **rate**. The rate is the decimal form of the percent. Problems involving **simple interest**, which is the amount paid or earned for the use of money, use the formula $I = prt$ or interest = principal × rate × time.

Percent Equation	The percentage is equal to the rate times the base. $P = RB$, where P is the percentage, B is the base, and R is the rate.

EXAMPLES

A 28 is 70% of what number?

$P = RB$ *Use the percent equation.*

$28 = 0.7B$ *Replace P with 28, R with 0.7.*

$\frac{28}{0.7} = \frac{0.7B}{0.7}$ *Divide each side by 0.7.*

$40 = B$

So, 28 is 70% of 40.

B How long will it take to earn \$100 if \$1000 is invested at an annual rate of 5%?

$I = prt$

$100 = 1000(0.05)t$ *Replace I with 100, p with 1000, and r with 0.05.*

$100 = 50t$ *1000 × 0.05 = 50*

$2 = t$ *Divide each side by 50.*

It will take 2 years to earn \$100 in interest.

PRACTICE

Use the percent equation to find each number.

1. Find 70% of 150.

2. What number is 60% of 95?

3. 60 is 125% of what number?

4. Find 8% of 150.

5. What number is 65% of 80?

6. 14 is 40% of what number?

7. 45 is 60% of what number?

8. 24 is 30% of what number?

9. Banking How much money should Conrad invest if he wants to earn \$50 in interest after 2 years, in an account that pays 5% annual interest?

10. **Standardized Test Practice** Josie put \$300 into an account. In 2 years, she earned \$36 in interest. What was the interest rate on the account?

A 4% **B** 5% **C** 6% **D** 8%

Answers: 1. 105 2. 57 3. 48 4. 12 5. 52 6. 35 7. 75 8. 80 9. \$500 10. C