Module 7   **Ratio, Proportion, and Percent**
Lesson 7   **Problem Solving with Percents**

Find each percent of change. Tell if it is a percent of increase or decrease.

1.   Original amount: 60
       New amount: 90

2.   Original amount: $36
       New amount: $63

3.   Original amount: 120
       New amount: 0

4.   Matthew bikes 16 miles every Saturday morning. He now plans on increasing his Saturday mileage by 20%. How many miles will he bike on Saturday mornings now?

5.   Chantel ran on a treadmill at a rate of six miles per hour. To cool down, she decreased the rate to two miles per hour. Find the percent of decrease.

6.   The original price of a medium pizza was $9.75, and the original price of a large pizza was $15.50. The price of the medium pizza increased by 20%, and the price of the large decreased by 10%. Find the new prices.

Find the amount of simple interest.

7. *P*: $300

 r: 4%

 t: 6 years

8. *P*: $2,500

 r: 8.5%

 t: $3\frac{1}{2}$ years

9. *P*: $925

 r: 2.25%

 t: 3 months

10. Norma borrowed $850 for one year. How much interest will she pay if the interest rate is 5% compounded semi-annually?

11. Sherman saved $10,000 for $1\frac{1}{2}$ years. How much interest will he earn if the simple interest rate is 8%? What will be the total amount in the account?

12. Nick has $300 to put into a savings account. He went to two banks and got these offers on interest rates:
  • Bank A: 4% simple interest
  • Bank B: 3.5% compounded annually

 Find how much interest each bank would pay after two years.

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Journal

1. When will a percent of increase be equal to 100%? Give an example.

2. Randy found a percent of change and wrote $\dfrac{30 - 20}{20}$. Did Randy find a percent of increase or decrease? How can he tell?

3. Explain why $1,000 saved at a rate of 5% compounded semiannually for two years gives more interest than $1,000 saved at a rate of 5% compounded annually for two years.

Cumulative Review

Find the decimal and percent equivalents.

1. $\dfrac{5}{8}$

2. $3\dfrac{5}{9}$

Find the unit cost.

3. Seven bars of soap cost $3.50.

4. A package of 12 batteries cost $6.60.

5. Rosemary bought a book for $8.95. The sales tax is 5%. How much sales tax did she pay?

6. A box of cereal that normally costs $4.25 has been discounted 20% because the box is crumpled. How much does the box of cereal cost?

7. A store buys T-shirts for $3.00 and marks them up 350%. For how much does the store sell the T-shirts?

8. Forty percent of what number is 800?

9. What percent of 50 is 75?

10. What is 62% of 30?