

NAME _____

Module 7 Ratio, Proportion, and Percent
Lesson 3 Decimal and Percent Equivalents

Challenge Problems

7.3

Set 1

- 1 Explain how to find the decimal and percent equivalents of $\frac{3}{5}$.

Set 2

- 1 Use a calculator to find the decimal equivalents of $\frac{1}{7}$ and $\frac{2}{7}$.

- 2 Based on the results of Problem 1, explain how to find the decimal equivalents of $\frac{3}{7}$, $\frac{4}{7}$, $\frac{5}{7}$, and $\frac{6}{7}$ without using a calculator.

Set 3

- 1 Explain how to write 625% as a mixed number and a decimal.

Possible Answers

Set 1

1. Convert $\frac{3}{5}$ to an equivalent fraction with 100 as the denominator. Multiply by $\frac{20}{20}$. The equivalent fraction is $\frac{60}{100}$, which is the same as 60%. Another way to work the problem is to divide the denominator five into the numerator three. The quotient is 0.6, which is the same as 0.60. Move the decimal point two places to the right to find the percent equivalent. The percent equivalent of $\frac{3}{5}$ is 60%.

Set 2

1. $\frac{1}{7} = 0.\overline{142857}$
 $\frac{2}{7} = 0.\overline{285714}$
2. The proper fractions that have seven as the denominator will consist of the six repeating digits one, four, two, eight, five, and seven, in the same cyclic order. If you put the repeating digits in order from least to greatest in the numerator, you would get the first digit in the repeating pattern of the fractions from least to greatest.

$$\frac{1}{7} = 0.\overline{142857} \quad \frac{2}{7} = 0.\overline{285714}$$

$$\frac{3}{7} = 0.\overline{428571} \quad \frac{4}{7} = 0.\overline{571428}$$

$$\frac{5}{7} = 0.\overline{714285} \quad \frac{6}{7} = 0.\overline{857142}$$

Set 3

1. Change 625% to a decimal by moving the decimal point two places to the left. The decimal equivalent is 6.25. The mixed number is the whole number six with 0.25 as the fraction: $6\frac{25}{100} = 6\frac{1}{4}$.