

6-1 Fractions, Decimals, and Percents

Learn to write equivalent fractions, decimals, and percents.

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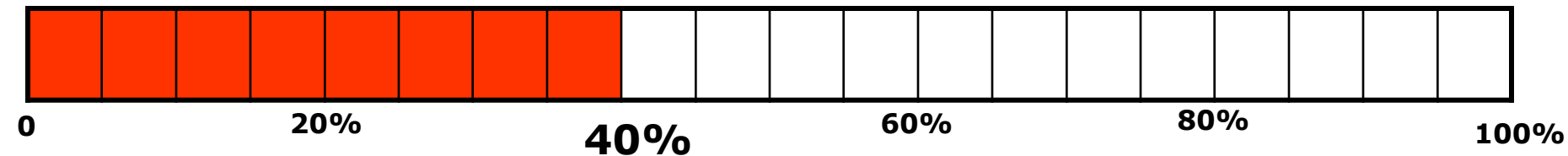
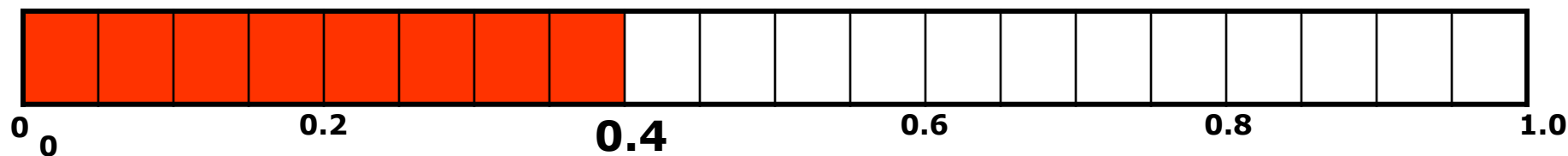
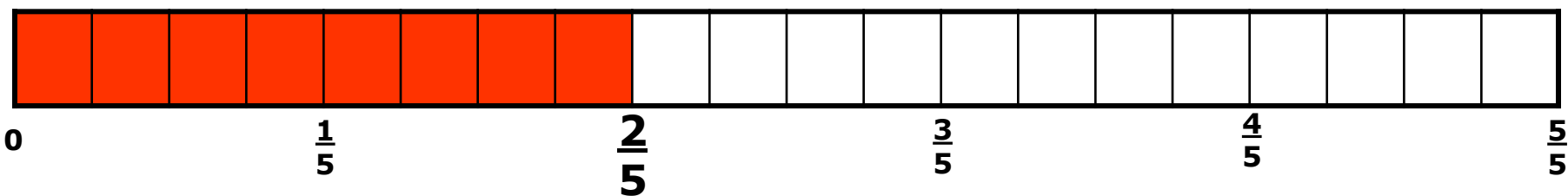
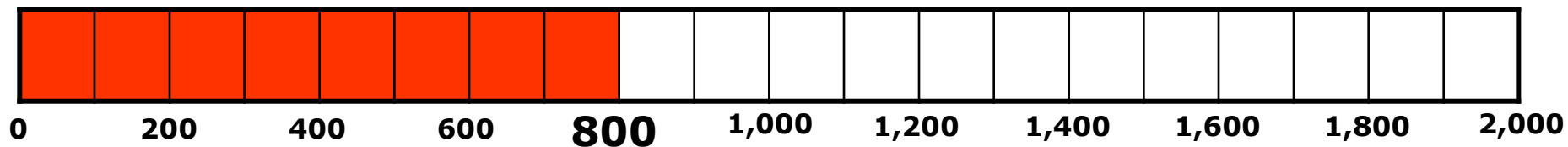
Vocabulary

percent

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The students at Westview Middle School are collecting cans of food for the local food bank. Their goal is to collect 2,000 cans in one month. After 10 days, they have 800 cans of food. What *percent* of their goal have they reached?

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The number lines show that the students have reached 40% of their goal.

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A **percent** is the ratio of a number to 100. The symbol % is used to indicate that a number is a percent. For example, 40% is the ratio 40 to 100, or $\frac{40}{100}$. Percents can be written as fractions or decimals.

Reading Math

The word *percent* means “per hundred.” So 40% means “40 out of 100.”

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Additional Example 1: Writing Percents as Fractions

Write 88% as a fraction in simplest form.

$$88\% = \frac{88}{100}$$

Write the percent as a fraction with a denominator of 100.

$$= \frac{22}{25}$$

Simplify.

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Try This: Example 1

Write 45% as a fraction in simplest form.

$$45\% = \frac{45}{100}$$

Write the percent as a fraction with a denominator of 100.

$$= \frac{9}{20}$$

Simplify.

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Additional Example 2: Writing Percents as Decimals

Write 51% as a decimal.

$$51\% = \frac{51}{100} \quad \textit{Write the percent as a fraction with a denominator of 100.}$$

$$= 0.51 \quad \textit{Write the fraction as a decimal.}$$

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Try This: Example 2


Write 67% as a decimal.

$$67\% = \frac{67}{100} \quad \text{Write the percent as a fraction with a denominator of 100.}$$

$$= 0.67 \quad \text{Write the fraction as a decimal.}$$

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Notice that both 43% and 0.43 mean “43 hundredths.” Another way to write a percent as a decimal is to delete the percent sign and move the decimal point two places to the left.

$$43\% = 0.43$$


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Additional Example 3A & 3B: Writing Decimals as Percents

Write each decimal as a percent.

A. 0.08

$$0.08 = \frac{8}{100}$$

Write the decimal as a fraction.

$$= 8\%$$

Write the fraction as a percent.

B. 0.7

$$0.7 = \frac{7}{10}$$

Write the decimal as a fraction.

$$= \frac{70}{100}$$

Write an equivalent fraction with a denominator of 100.

$$= 70\%$$

Write the fraction as a percent.

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Try This: Example 3A & 3B

Write each decimal as a percent.

A. 0.01

$$0.01 = \frac{1}{100} \quad \text{Write the decimal as a fraction.}$$

$$= 1\% \quad \text{Write the fraction as a percent.}$$

B. 0.1

$$0.1 = \frac{1}{10} \quad \text{Write the decimal as a fraction.}$$

$$= \frac{10}{100} \quad \text{Write an equivalent fraction with a denominator of 100.}$$

$$= 10\% \quad \text{Write the fraction as a percent.}$$

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Both 0.07 and 7% mean “7 hundredths.”
you can write a decimal as a percent by
moving the decimal point two places to
the right and adding the percent sign.

$$0.\underline{07} = 7.0\%$$

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Additional Example 4A: Writing Fractions as Decimals

Write each fraction as a percent.

A. $\frac{3}{5}$

$$\frac{3}{5} = \frac{3 \cdot 20}{5 \cdot 20}$$

$$= \frac{60}{100}$$

$$= 60\%$$

Write an equivalent fraction with a denominator of 100.

Write the fraction as a percent.

Helpful Hint

The method shown in example 4A works only if the given denominator is a factor or multiple of 100.

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Additional Example 4B: Writing Fractions as Decimals

Write each fraction as a percent.

B. $\frac{7}{40}$

$$\frac{7}{40} = 7 \div 40 \quad \textit{Use division to write a fraction as a decimal.}$$

$$= 0.175$$

$$= 17.5\% \quad \textit{Write the decimal as a percent.}$$

Helpful Hint

The method shown in 4B works for any denominator.

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Try This: Example 4A

Write each fraction as a percent.

A. $\frac{3}{4}$

$$\frac{3}{4} = \frac{3 \cdot 25}{4 \cdot 25}$$

$$= \frac{75}{100}$$

$$= 75\%$$

Write an equivalent fraction with a denominator of 100.

Write the fraction as a percent.

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Try This: Example 4B

Write each fraction as a percent.

B. $\frac{9}{60}$

$$\frac{9}{60} = 9 \div 60 \quad \textit{Use division to write a fraction as a decimal.}$$

$$= 0.15$$

$$= 15\% \quad \textit{Write the decimal as a percent.}$$

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Lesson Quiz

1. Write 40% as a fraction. $\frac{2}{5}$
2. Write 0.65 as a percent. 65%
3. Write 72% as a decimal. 0.72
4. Write $\frac{6}{10}$ as a percent. 60%
5. About 95% of all animals are insects. Express this percent as a fraction. $\frac{19}{20}$

Homework

6-1 Worksheet

Study for fraction quiz Thursday

Study for 2-1 1 to 6-3 quiz Thursday

