lesson nineteen - student resource sheet

Lesson Objective: Divide a whole number or fraction by a fraction, or divide a fraction by a whole number.

Vocabulary Box

reciprocal – The number which, when multiplied times a particular fraction, gives the result of 1. Examples: $\frac{1}{5}$ is the reciprocal of 5, and $\frac{6}{8}$ is the reciprocal of $\frac{8}{6}$.

cancellation – Finding the GCF of a numerator and denominator and renaming them in order to simplify a problem. Example: $\frac{1}{7} \times \frac{14}{5} = \frac{1}{\cancel{7}^{1}} \times \frac{\cancel{14}^{2}}{5} = \frac{2}{5}$

Independent Practice

Directions: Complete the following practice problems on your own. Your teacher will review the answers. Make sure you show all your work, and write your answers in simplest form. Use cancellation when appropriate.

1. $\frac{2}{6} \div \frac{2}{7}$

2. $\frac{1}{6} \div \frac{4}{12}$

3. $\frac{1}{6} \div \frac{5}{24}$

4. $\frac{5}{8} \div 10$

5. $8 \div \frac{1}{3}$

6. $\frac{3}{7} \div \frac{2}{3}$

7. $\frac{1}{9} \div \frac{6}{7}$

8. $\frac{7}{5} \div \frac{6}{20}$

9. $\frac{9}{2} \div \frac{13}{4}$

10. $\frac{9}{10} \div \frac{1}{7}$

Directions: Find each quotient.

1. $\frac{9}{2} \div \frac{3}{24} \div 2$

2. $\frac{7}{5} \div \frac{6}{15} \div \frac{1}{5}$

Problem Solving

Directions: Solve each word problem using problem-solving strategies. Show all your work, and write each answer in a sentence using words from the problem.

1. Ashley divided $\frac{3}{4}$ of a pizza into 6 slices. How large was each slice compared with the whole pizza?

2. Dante has $\frac{7}{10}$ of an hour to study for 6 different classes. He wants to divide his study time into 6 equal sections. How long will each section last?

3. The sixth grade race is $\frac{6}{10}$ mile long. It is divided into 3 equal sections: uphill, downhill, and flat. How long is each section?

4. Lisa planted flowers in $\frac{1}{2}$ of her garden. She divided the flower part of the garden into 4 equal sections. What fraction of the whole garden is each flower section?

5. Javon's bookshelf is $\frac{9}{10}$ meter tall. It has 6 shelves of equal heights. How tall is each shelf?

Directions: Write *true* or *false* on the line for each statement.

_____1. You need a common denominator when you multiply and divide fractions.

_____2. We find the GCF when we cancel.

_____ 3. $\frac{1}{7} \div \frac{5}{21} = \frac{5}{21} \times \frac{7}{1}$

_____ 4. $\frac{9}{10}$ is the reciprocal for $\frac{10}{9}$.

_____ 5. A whole number does not have a reciprocal.

_____ 6. Simplest form might be an improper fraction.

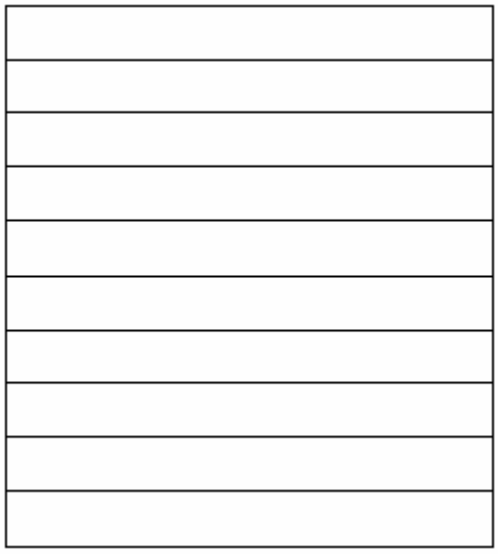
lesson twenty - student resource sheet

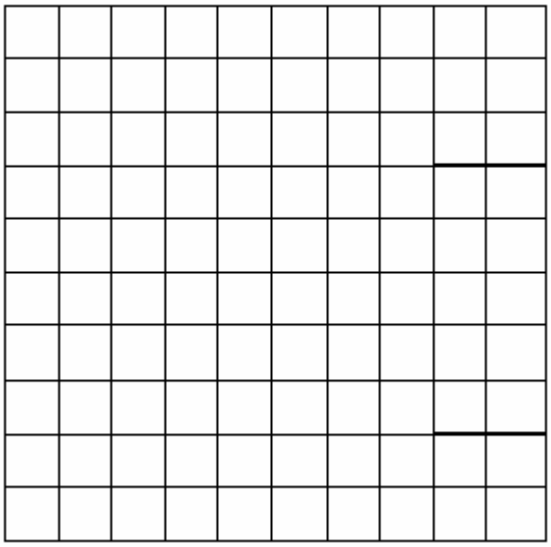
Lesson Objective: Write a ratio (fraction) as a percent and a percent as a ratio (fraction) with a denominator of 100.

Vocabulary Box

ratio – A pair of numbers that compares different types of units. A ratio is often expressed as a fraction. Examples: $\frac{7}{10}$, or 7 out of 10, of the class are girls. The ratio of brown to black pairs of shoes is 1:3, or 1 to 3.

percent – A fraction or ratio in which the denominator is assumed to be 100. The symbol % is used for percent. Example: His test score was 90% because he answered 90 out of 100 questions correctly.





Guided Practice

Directions: You will complete the following practice problems. Then your teacher will review the answers. Make sure that you show all your work.

I. Work with a partner to write each ratio as a percent.

1. $\frac{20}{100}$

2. $\frac{75}{100}$

3. $\frac{2}{5}$

4. $\frac{7}{20}$

lesson twenty - student resource sheet

II. Work with a partner to write each percent as a ratio with 100 as the denominator. Then write your answer in simplest form.

1. 28%

2. 40%

3. 68%

4. 35%

III. Work independently to answer each question.

1. What is $\frac{8}{10}$ written as a percent?

2. What is $\frac{3}{5}$ written as a percent?

3. What is 42% written as a ratio with 100 as the denominator?

Summary/Closure

A. Vocabulary Words

Directions: Fill in the blanks with a term from our lesson today.

1. A pair of numbers that compares different types of units, as in a fraction, is called a _____.

2. A fraction or ratio in which the denominator is assumed to be 100 is a _____.

B. Summarize What We Learned Today

Write your own word problem with a ratio as an answer. Then, explain how to write that answer as a percent. Next, write a word problem with a percent as the answer. Finally, explain how to write that answer as a ratio with 100 as the denominator.

lesson twenty-one - student resource sheet

Lesson Objective: Write a ratio (fraction) as a percent and a percent as a ratio (fraction) with a denominator of 100.

Vocabulary Box

ratio – A pair of numbers that compares different types of units. A ratio is often expressed as a fraction. Examples: $\frac{7}{10}$, or 7 out of 10, of the class are girls. The ratio of brown to black pairs of shoes is 1:3, or 1 to 3.

percent – A fraction or ratio in which the denominator is assumed to be 100. The symbol "%" is used for percent. Example: His test score was 90% because he answered 90 out of 100 questions correctly.

Independent Practice

Directions: Complete the following practice problems on your own. Your teacher will review the answers. Make sure you show all your work.

I. Write each ratio as a percent.

1. $\frac{25}{100}$

2. $\frac{4}{10}$

3. $\frac{10}{10}$

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

5. $\frac{3}{25}$

II. Write each percent as a ratio with 100 as the denominator. Then write an equivalent ratio for each percent.

1. 100%

2. 32%

3. 18%

4. 10%

1. Express $1\frac{3}{4}$ as a percent and as a decimal.

2. Express 200% as a ratio in simplest form.

Directions: Use problem-solving strategies to solve the word problems. Use simplest form where appropriate, and write each answer in a sentence using words from the problem.

1. Tina sees 25% of the movies that are shown at her neighborhood theater. What fraction, or ratio, of the movies does she see?

2. Jose saves 60% of his allowance. What ratio of his allowance does he save?

3. Nine-tenths of Cedarville's population has lived in Cedarville since birth. What percent of the population has always lived in Cedarville?

4. If 40 of the 100 members of the chorus are boys, what ratio of the chorus is girls?

5. Seventy-five percent of the girls on the school swim team passed the junior lifeguard test. What ratio of the team did not pass the test?

6. Four-fifths of the students at Elmwood Elementary bought their lunch in the school cafeteria. What percent of the students bought their lunch?

Directions: Use what you know about ratios and percents to answer each question.

1. When a teacher figures the number of answers correct compared with the total number of questions, he or she is computing a _____.

2. If 20 out of 25 students passed a test, what percent passed?

3. What is 30% written as a ratio with 100 as the denominator?