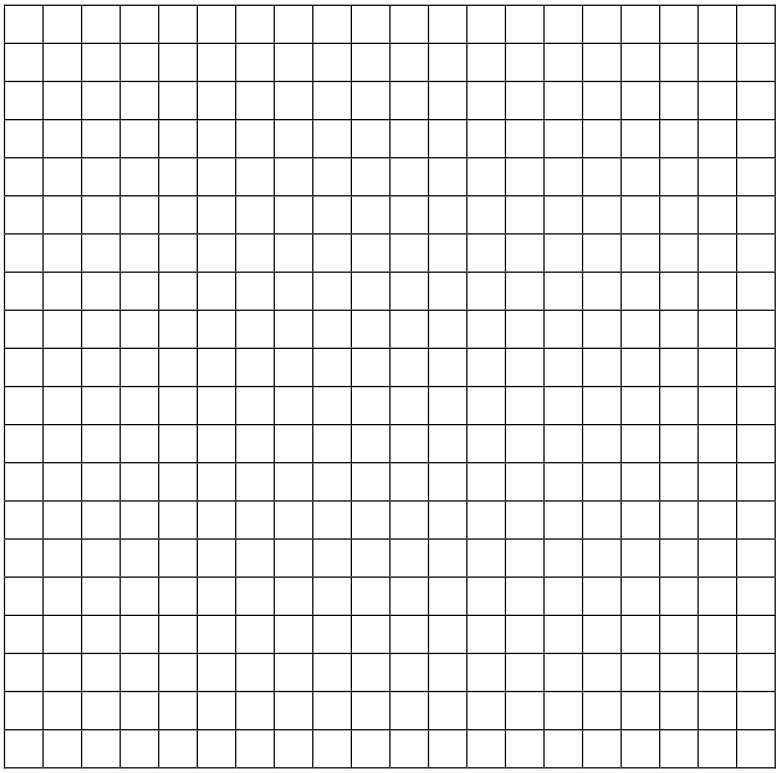
Lesson Objective: Find the reciprocal of a whole number or fraction.

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 $\frac{8}{6}$.



Guided Practice

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

I. Work with a partner to find each reciprocal. Write your answers in simplest form, and check each answer, using multiplication.

1. $\frac{4}{5}$

2. 200

3. $2\frac{1}{4}$

4. $1\frac{5}{8}$

5. $5\frac{3}{4}$

6. 23

II. Work on your own to find each reciprocal. Write your answers in simplest form, and check each answer, using multiplication.

1. $\frac{1}{46}$

2. $\frac{5}{6}$

3. $3\frac{1}{4}$

4. $10\frac{1}{4}$

Summary/Closure

A. Vocabulary Words

Define the term *reciprocal,* then write a sentence using the term.

B. Summarize What We Learned Today

Explain how to find the reciprocal for each type of number: a whole number, a mixed number, and a proper fraction. Then write an example of a reciprocal for each type of number.

whole number –

mixed number –

proper fraction –

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Lesson Objective: Find the reciprocal of a whole number or fraction.

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 $\frac{8}{6}$.

Independent Practice

Directions: Complete the following practice problems on your own by finding each reciprocal. Your teacher will review the answers. Make sure you show all your work, and write your answers in simplest form.

1. $14\frac{1}{5}$

2. $\frac{7}{8}$

3. 31

4. $\frac{7}{24}$

5. $\frac{1}{72}$

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

7. $1\frac{1}{20}$

8. $4\frac{3}{5}$

9. $8\frac{1}{3}$

10. $\frac{6}{19}$

11. $44\frac{2}{3}$

12. 100

1. Name the reciprocal of $1\frac{2}{3}$.

2. Name the reciprocal of $25\frac{1}{3}$.

3. Name the reciprocal of $27\frac{1}{4}$.

Problem Solving

Directions: Read each word problem carefully. Use problem-solving strategies to answer each question, and make sure your answers are reasonable. Show all your work, and write your final answers in sentences using words from the problems.

1. Craig studied for $\frac{2}{3}$ hour last night. If Cameron studied for $\frac{3}{4}$ hour, is Cameron's study time the reciprocal of Craig's study time? Explain your answer.

2. Pam bought $\frac{2}{7}$ of a pound of pasta. Beverly bought the reciprocal of Pam's amount. How many pounds of pasta did Beverly buy?

3. Sammy bought $1\frac{3}{4}$ gallons of water for a camping trip. He drank $\frac{4}{7}$ of the water. How many gallons of water did he drink?

4. If Juan had $\frac{1}{5}$ of a pack of gum and his sister had the reciprocal, how much gum did his sister have?

5. Maria brought $\frac{1}{3}$ of a case of juice to a math club meeting. Rodney brought the reciprocal. How many cases of juice did they bring altogether?

Directions: Find each reciprocal and write your answer in simplest form.

1. 20

2. $\frac{5}{31}$

3. $18\frac{2}{3}$

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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. Example: $\frac{1}{8}$ is the reciprocal of 8, and $\frac{7}{6}$ is the reciprocal of $\frac{6}{7}$.

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

Guided Practice

Directions: Complete the division problems. Make sure you show all your work, and write your answers in simplest form. Your teacher will review the answers.

I. Work with a partner to find each quotient. Use cancellation when appropriate to simplify a problem.

1. $9 \div \frac{3}{4}$
2. $\frac{7}{8} \div 7$
3. $\frac{3}{5} \div \frac{3}{10}$
4. $8 \div \frac{4}{5}$
5. $\frac{1}{13} \div \frac{3}{5}$

II. Work independently to find each quotient. Use cancellation when appropriate to simplify a problem.

1. $\frac{5}{8} \div \frac{3}{7}$

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

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

4. $\frac{1}{3} \div 10$

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

Summary/Closure

A. Vocabulary Words

Directions: Fill in the blanks with today's vocabulary terms.

1. Using the shortcut by reducing the denominator and numerator by any common factors is called _____.

2. In a division problem, before we can multiply two fractions, we have to find the _____ of the divisor.

B. Summarize What We Learned Today

Write three example division problems. First, divide a fraction by a fraction. Next, divide a fraction by a whole number. Finally, divide a whole number by a fraction. Then explain the general steps involved in solving division problems with fractions.