

# Fractions as Division

Grade 5 Math • Section 5.1

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Score: \_\_\_\_\_ / 14

## Quick Review and Helpful Hints

**Key idea:**  $\frac{a}{b} = a \div b$ . A fraction represents division of the numerator by the denominator.

$\frac{3}{4}$  means  $3 \div 4 = 0.75$ . This also means sharing 3 items equally among 4 people — each gets  $\frac{3}{4}$ .

The denominator tells how many equal parts; the numerator tells how many parts are used.

**Example:** Five friends share 3 sandwiches equally. How much does each person get?

We divide 3 sandwiches among 5 people:  $3 \div 5 = \frac{3}{5}$ . Each person gets  $\frac{3}{5}$  of a sandwich.

**Answer:**  $\frac{3}{5}$  of a sandwich

## Practice Problems

Write each division as a fraction and each fraction as a division.

- |                                       |  |
|---------------------------------------|--|
| 1. $1 \div 4 =$ _____                 | 7. $11 \div 3 =$ _____   |
| 2. $3 \div 8 =$ _____                 | 8. $2 \div 9 =$ _____  |
| 3. $7 \div 10 =$ _____                | 9. $8 \div 5 =$ _____  |
| 4. $5 \div 6 =$ _____                 | 10. $\frac{15}{4} =$ _____ $\div$ _____                              |
| 5. $\frac{9}{2} =$ _____ $\div$ _____ | 11. If 4 pizzas are shared equally among 6 friends, each gets _____. |
| 6. $\frac{4}{7} =$ _____ $\div$ _____ | 12. $10 \div 3 =$ _____  |

## Word Problems

13. Eight students share 5 granola bars equally. Write a division expression and a fraction to show how much each student gets. \_\_\_\_\_
14. A 7-foot piece of rope is cut into 12 equal pieces. What fraction of a foot is each piece? Write as a fraction and as a decimal (rounded to hundredths). \_\_\_\_\_



## Answer Keys

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

2.  $\frac{3}{8}$

3.  $\frac{7}{10}$

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

5.  $9 \div 2$

6.  $4 \div 7$

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

8.  $\frac{2}{9}$

9.  $1\frac{3}{5}$

10.  $15 \div 4$

11.  $\frac{4}{6} = \frac{2}{3}$  pizza

12.  $3\frac{1}{3}$

13.  $5 \div 8 = \frac{5}{8}$

14.  $\frac{7}{12} \approx 0.58$

### Step-by-Step Explanations

1. Start with the main idea. For fractions as division,  $1 \div 4$  means 1 shared into 4 equal parts. Fractions are easier to combine when the pieces are the same size.

2. Keep the work tidy. For fractions as division,  $3 \div 8 = \frac{3}{8}$ . Always simplify at the end so the answer is clean and useful.

3. Look at what the numbers mean. For fractions as division,  $7 \div 10 = \frac{7}{10}$ . For mixed numbers, converting to improper fractions can make the arithmetic calmer.

4. Use the setup first. For fractions as division,  $5 \div 6 = \frac{5}{6}$ . Fractions are easier to combine when the pieces are the same size.

5. Check the size of the answer. For fractions as division, the numerator is the dividend and the denominator is the divisor. Always simplify at the end so the answer is clean and useful.

6. Match the operation to the words. For fractions as division, the fraction  $\frac{4}{7}$  means 4 divided by 7. For mixed numbers, converting to improper fractions can make the arithmetic calmer.

7. Write the important values first. For fractions as division,  $11 \div 3 = \frac{11}{3} = 3\frac{2}{3}$ . Fractions are easier to combine when the pieces are the same size.

8. Follow the pattern carefully. For fractions as division,  $2 \div 9 = \frac{2}{9}$ . Always simplify at the end so the answer is clean and useful.

9. Start with the main idea. For fractions as division,  $8 \div 5 = \frac{8}{5} = 1\frac{3}{5}$ . For mixed numbers, converting to improper fractions can make the arithmetic calmer.

10. Keep the work tidy. For fractions as division, the fraction  $\frac{15}{4}$  means 15 divided by 4. Fractions are easier to combine when the pieces are the same size.

11. Look at what the numbers mean. For fractions as division, four pizzas shared by six friends gives  $\frac{4}{6} = \frac{2}{3}$  each. Always simplify at the end so the answer is clean and useful.

12. Use the setup first. For fractions as division,  $10 \div 3 = \frac{10}{3} = 3\frac{1}{3}$ . For mixed numbers, converting to improper fractions can make the arithmetic calmer.

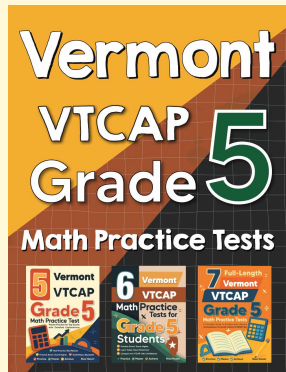
13. Check the size of the answer. For fractions as division, five bars shared by eight students gives  $\frac{5}{8}$  bar each. Fractions are easier to combine when the pieces are the same size.

14. Match the operation to the words. For fractions as division, each piece is  $7 \div 12 = \frac{7}{12}$  foot, about 0.58 foot. Always simplify at the end so the answer is clean and useful.



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