

Objective Multiplying and Dividing with Fractions

Warm-Up



Write the least common multiple (LCM) of the numbers in each pair

1. 3, 4

WORKED EXAMPLES

	1	2	3	4	5
3:	$3 \times 1 = 3$	$3 \times 2 = 6$	9	12	15
4:	$4 \times 1 = 4$	$4 \times 2 = 8$	12	16	20

LCM is 12

2. 15, 6

3. 14, 7



Division often means to ask how many groups of a certain size are contained in a number.

WORKED EXAMPLE

The expression  $12 \div 3$  means you are trying to determine how many groups of 3 are in 12. A physical model and number line model are shown.

Physical Model

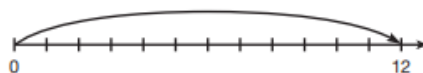


1 group of 12

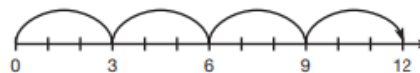


4 groups of 3

Number Line Model



1 group of 12



4 groups of 3

$$12 \div 3 = 4$$

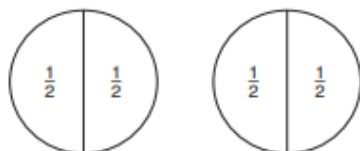
There are 4 groups of 3 in 12.

WORKED EXAMPLE

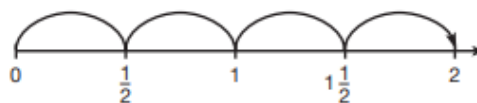
When you divide with fractions, you are asking the same question.

The expression  $2 \div \frac{1}{2}$  is asking how many halves are in 2.

Physical Model



Number Line Model



There are four  $\frac{1}{2}$  parts in 2, so  $2 \div \frac{1}{2} = 4$

**1. For each problem situation, first estimate the answer. Then draw a diagram and write the appropriate number sentence.**

**a. How many students can be served with 4 cups of trail mix if each student gets  $\frac{1}{2}$  of a cup of trail mix?**

**b. How many  $\frac{1}{4}$ -cup servings of trail mix can you make with 4 cups?**

**c. How many  $\frac{1}{3}$ -cup trail mix servings can you make with 4 cups?**

**d. Do you notice a pattern? Explain your reasoning.**

**2. You have 4 cups of trail mix. If each student receives:**

**a.  $\frac{2}{3}$  cup, how many students are there?**

**b.  $\frac{2}{5}$  cup, how many students are there?**

**c.  $\frac{4}{5}$  cup, how many students are there?**

**d.  $\frac{4}{7}$  cup, how many students are there?**

**Show You  
KNOW**

Reasoning with Division

**1. How is the quotient of  $12 \div \frac{1}{3}$  related to the quotient of  $12 \div \frac{2}{3}$  ? Explain your reasoning.**

**2. Determine the quotient for each. Then, describe any patterns that you notice.**

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

$$6 \div \frac{1}{4}$$

$$6 \div \frac{1}{8}$$

$$6 \div \frac{1}{16}$$

**LESSON 2.2b**  
**Did You Get The Part****Objective** Multiplying and Dividing with Fractions**Practice**

Calculate each product or quotient.

1.  $2\frac{2}{5} \times 3\frac{1}{3}$

2.  $8 \div \frac{3}{4}$

3.  $10 \div \frac{2}{5}$

4.  $3\frac{4}{5} \times 2\frac{1}{2}$

5.  $1\frac{3}{8} \times 6\frac{1}{4}$

6.  $5\frac{2}{3} \times 4\frac{1}{6}$

7.  $2\frac{1}{3} \times 7\frac{1}{4}$

8.  $5 \div \frac{2}{5}$

9.  $4 \div \frac{3}{8}$

**Spiral Review**Calculate the following areas show ALL calculations. **FIND AND USE THE FORMULAS**