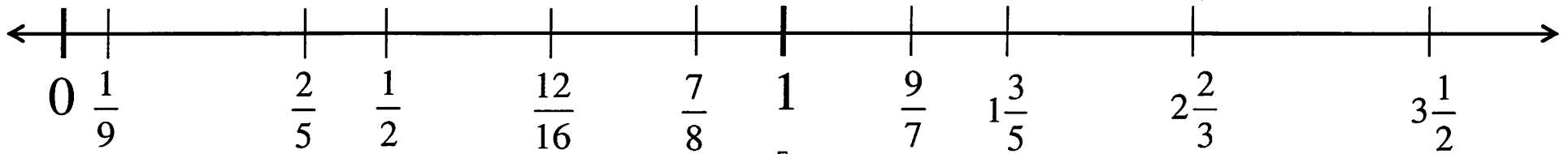


What Happens to the Quotient When You Divide Fractions?



	What happened to the Quotient?		What happened to the Quotient?
	What happened to the Quotient?		What happened to the Quotient?

Conclusion:

A number \div a proper fraction is _____ than the original number.
(less than 1)

A number \div an improper fraction or mixed number is _____ than the original number
(greater than 1)

I can divide proper fractions and simplify my answer into lowest terms.

Dividing Proper Fractions Introduction

We can learn how to divide fractions by using our well-known **Inverse Property of Multiplication**.

$$\frac{4}{5} \div \text{---} = 1 \quad \frac{4}{5} \cdot \text{---} = 1 \quad 5 \div \text{---} = 1 \quad 5 \cdot \text{---} = 1$$

Dividing by a fraction is the same as _____ by the _____ of the second fraction.

Let's Do a Couple Examples:

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

2. $\frac{1}{4} \div \frac{5}{6}$

3. $\frac{10}{27} \div \frac{1}{9}$

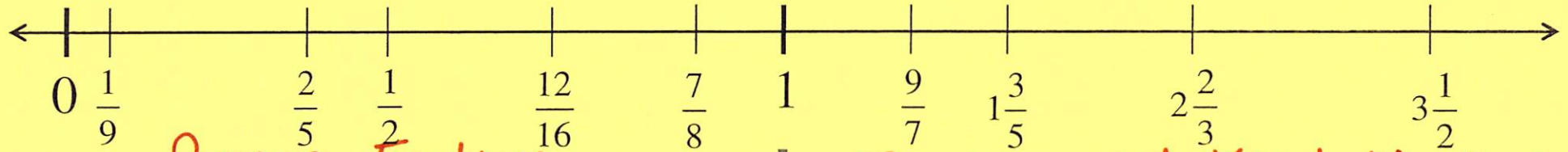
4. $\frac{5}{12} \div 10$

5. $14 \div \frac{6}{7}$

6. $2\frac{1}{2} \div \frac{3}{4}$

7. $3\frac{3}{4} \div \frac{5}{12}$

What Happens to the Quotient When You Divide Fractions?



Take 6

Proper Fractions

$6 \div \frac{2}{5}$ $\frac{6}{1} \cdot \frac{5}{2} = \frac{30}{2} = 15$	What happened to the Quotient? $6 \rightarrow 15$
$6 \div \frac{1}{2}$ $\frac{6}{1} \cdot \frac{2}{1} = \frac{12}{1} = 12$	What happened to the Quotient? $6 \rightarrow 12$

Take 6

Improper and Mixed Numbers

$6 \div \frac{6}{5}$ $\frac{6}{1} \cdot \frac{5}{6} = \frac{30}{6} = 5$	What happened to the Quotient? $6 \rightarrow 5$
$6 \div 1\frac{1}{3}$ $\frac{6}{1} \div \frac{4}{3} = \frac{18}{4} = 4\frac{2}{4} = 4\frac{1}{2}$	What happened to the Quotient? $6 \rightarrow 4\frac{1}{2}$

Conclusion:

A number \div a proper fraction is bigger than the original number.
 (less than 1)

A number \div an improper fraction or mixed number is smaller than the original number
 (greater than 1)

I can divide proper fractions and simplify my answer into lowest terms.

Dividing Proper Fractions Introduction

We can learn how to divide fractions by using our well-known **Inverse Property of Multiplication**.

$$\frac{4}{5} \div \frac{4}{5} = 1 \quad \frac{4}{5} \cdot \frac{5}{4} = 1 \quad 5 \div \underline{5} = 1 \quad 5 \cdot \frac{1}{5} = 1$$

Dividing by a fraction is the same as multiplying by the reciprocal of the second fraction.

Let's Do a Couple Examples:

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

$$\frac{\cancel{3}^1}{\cancel{4}_2} \cdot \frac{\cancel{8}^2}{\cancel{3}_1} = \frac{2}{1} = \boxed{2}$$

2. $\frac{1}{4} \div \frac{5}{6}$

$$\frac{1}{\cancel{4}_2} \cdot \frac{\cancel{6}^3}{5} = \frac{3}{10}$$

3. $\frac{10}{27} \div \frac{1}{9}$

$$\frac{10}{\cancel{27}_3} \cdot \frac{\cancel{9}^1}{1} = \frac{10}{3} = \boxed{3\frac{1}{3}}$$

4. $\frac{5}{12} \div 10$

$$\frac{5}{12} \div \frac{10}{1}$$

$$\frac{\cancel{5}_1}{\cancel{12}_2} \cdot \frac{1}{\cancel{10}_2} = \boxed{\frac{1}{24}}$$

5. $14 \div \frac{6}{7}$

$$\frac{14}{1} \div \frac{6}{7}$$

$$\frac{\cancel{14}_7}{1} \cdot \frac{7}{\cancel{6}_3} = \frac{49}{3} = \boxed{16\frac{2}{3}}$$

6. $\frac{5}{2} \div \frac{3}{4}$

$$\frac{5}{2} \div \frac{3}{4}$$

$$\frac{5}{\cancel{2}_1} \cdot \frac{\cancel{4}^2}{3} = \frac{10}{3} = \boxed{3\frac{1}{3}}$$

7. $\frac{3}{4} \div \frac{5}{12}$

$$\frac{3}{4} \div \frac{5}{12}$$

$$\frac{\cancel{3}_1}{\cancel{4}_1} \cdot \frac{\cancel{12}^3}{5} = \frac{9}{1} = \boxed{9}$$