

# Concept: Dividing Fractions

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

## COMPUTER COMPONENT

**Instructions:** In  follow the **Content Menu** path:

**Fractions > Dividing Fractions**

 Work through all Sub Lessons of the following Lessons **in order**:

- *Understanding Division*
- *Examples with Diagrams*
- *Patterns from Examples*
- *Algebraic Explanation*
- *Examples without Diagrams*



As you work through the computer exercises, you will be prompted to make notes in your notebook/math journal.

## NOTES

Working with diagrams can be quite effective as you aim to make connections between concepts. *This certainly holds true for the division of fractions.*

1. We want to find  $\frac{2}{4} \div \frac{1}{8}$ .

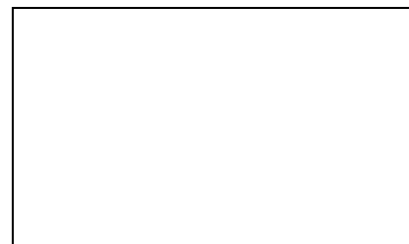
This means that we want to find how many \_\_\_\_\_ are in  $\frac{2}{4}$ .

First, divide this shape in to 4 equal parts.

Next, shade in *two* of them.

Now, divide the shape in to 8 parts.

How many of the  $\frac{1}{8}$  are in  $\frac{2}{4}$ ? \_\_\_\_\_

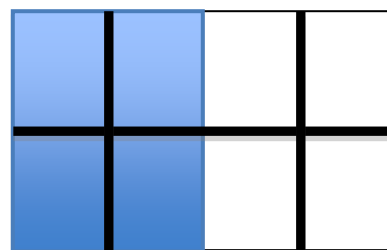


*We want to find...*

How many of the  $\frac{1}{8}$  are in  $\frac{2}{4}$  ?

How many of the  $\frac{1}{8}$  are in  $\frac{4}{8}$  ?

= 4 of course!



After a concept is understood, rules or procedures may often be used to make your calculations more efficient.

## 2. Dividing Fractions Rule:

**To divide by a fraction, multiply by its \_\_\_\_\_**

The reciprocal of  $\frac{1}{6}$  is  $\frac{6}{1}$ , just as  $\frac{4}{3}$  is  $\frac{3}{4}$ .

*List some examples of reciprocals:*

When we are asked to divide:  $\frac{3}{4} \div \frac{3}{8} =$

We know that the question is asking us to find  $\frac{3}{8}$  of  $\frac{3}{4}$

Then, we find the reciprocal of divisor and multiply.

$$\frac{3}{4} \div \frac{3}{8} = \text{becomes } \frac{3}{4} \times \frac{8}{3} = \frac{1}{1} \times \frac{2}{1} = 2 \quad \text{or} \quad \frac{3}{4} \times \frac{8}{3} = \frac{24}{12} = 2$$

## 3. Multiplying Fractions- Review

(a)  $\frac{1}{2} \times \frac{1}{4} =$

(b)  $\frac{2}{3} \times \frac{9}{10} =$

(c)  $\frac{5}{12} \times \frac{16}{20} =$

(d)  $\frac{45}{49} \times \frac{21}{25} =$

**OFF COMPUTER EXERCISES**

1. Divide the following Fractions.

(a)  $\frac{1}{2} \div \frac{2}{3} =$

(b)  $\frac{2}{5} \div \frac{4}{7} =$

(c)  $\frac{4}{5} \div \frac{8}{15} =$

(d)  $\frac{3}{5} \div \frac{9}{25} =$

(e)  $\frac{7}{8} \div \frac{21}{16} =$

(f)  $\frac{12}{15} \div \frac{18}{20} =$

(g)  $\frac{16}{35} \div \frac{10}{25} =$

(h)  $\frac{63}{121} \div \frac{21}{22} =$

2. Bob wants to share his chocolate bar with his friends. He has  $\frac{2}{3}$  of a bar and he wants to give each friend  $\frac{1}{6}$  of a chocolate bar. *How many friends can Bob feed?*

3. Farmer Fred has  $\frac{4}{5}$  of an acre of farmland. He wants to plant 8 different crops this year. *How many acres will he have for each crop?*

4. How many strips of wallpaper  $\frac{4}{45}$  m long can be cut from a strip  $\frac{2}{5}$  m long?