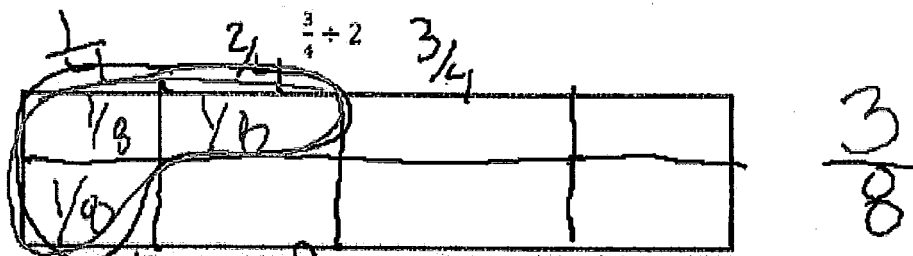


## DIVIDING FRACTIONS BY A WHOLE

We can \_\_\_\_\_ fraction division using an area model.

Area Model:

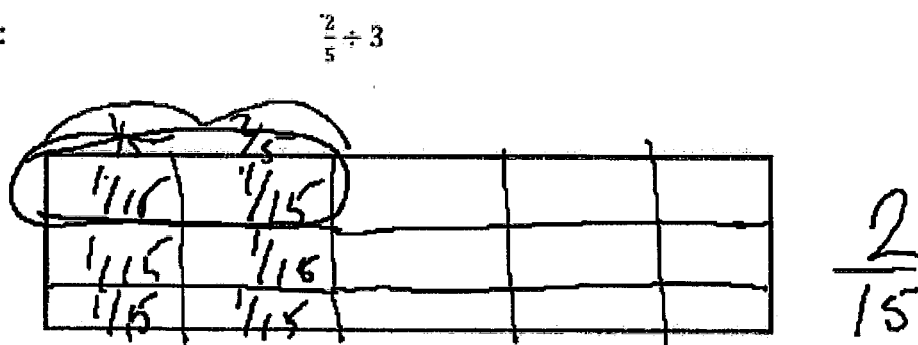


Math Way:

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

$$\frac{3}{4} \cdot \frac{1}{2} = \left( \frac{3}{8} \right)$$

Area Model:



Math Way:

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

$$\frac{2}{5} \cdot \frac{1}{3} = \frac{2}{15}$$

# RECIPROCAL OF A FRACTION

- A fraction multiplied by its reciprocal has a product of one.
- Also called the multiplicative inverse.
- Examples:

$$\frac{5}{8} \cdot \frac{8}{5} = 1$$

$$\frac{9}{7} \cdot \frac{7}{9} = 1$$

$$\frac{2}{11} \cdot \frac{11}{2} = 1$$

Complete the questions below by determining the reciprocal of each fraction.

3. $\frac{1}{4}$ $\frac{4}{1}$	4. $\frac{13}{6}$ $\frac{6}{13}$	5. $\frac{8}{3}$ $\frac{3}{8}$
6. $\frac{9}{3}$	7. 7	8. 8

Use the following steps to divide fractions:

1. Change each mixed number to an improper fraction \*
2. Rewrite the 1st fraction. \*
3. Change the division to multiplication
4. Find the reciprocal of the second fraction.
5. Multiply. \*
6. Simplify. \*

<b>ALGORITHM</b>	9. $\frac{3}{4} + 2 =$ $\frac{3}{4} \cdot \frac{1}{2}$ $\frac{3}{8}$	10. $\frac{2}{5} \div 3 =$	11. $\frac{3}{2} \div 5 =$ $\frac{11}{4} \div 5$ $\frac{11}{4} \cdot \frac{1}{5} = \frac{11}{20}$
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Summarize today's lesson: