

## Lesson 8: Dividing Fractions and Mixed Numbers

### Classwork

#### Example 1: Introduction to Calculating the Quotient of a Mixed Number and a Fraction

- a. Carli has  $4\frac{1}{2}$  walls left to paint in order for all the bedrooms in her house to have the same color paint.

However, she has used almost all of her paint and only has  $\frac{5}{6}$  of a gallon left.

How much paint can she use on each wall in order to have enough to paint the remaining walls?

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

1. Estimate:  $1 \div 5 = \frac{1}{5}$

2. Convert  $4\frac{1}{2}$  to a fraction  $\frac{9}{2}$

3. Divide:  $\frac{5}{6} \div \frac{9}{2}$       Multiplication Sent:

$$\frac{5}{6} \cdot \frac{2}{9} = \frac{10}{54} \div 2 = \frac{5}{27}$$

Common Factors:

$$\frac{9}{2} \times 3 \frac{27}{6} \quad \frac{5}{6} \div \frac{27}{6} = \frac{5}{27}$$

- b. Calculate the quotient.

$$\frac{2}{5} \div 3\frac{4}{7}$$

Convert  $3\frac{4}{7}$  to a fraction  $\frac{25}{7}$        $(3 \times 7 + 4)$

1. Multi. Sent.  $\frac{2}{5} \cdot \frac{7}{25} = \frac{14}{125}$

2. Equiv. Fractions  $\frac{2}{5} \times 7 = \frac{14}{35}$        $\frac{14}{35} \div \frac{125}{35} = \frac{14}{125}$

$$\frac{25}{7} \times 5 = \frac{125}{35}$$

Carli can use  $\frac{5}{27}$  of a gallon of paint on each of the remaining walls.