Solutions

Exit Tickets

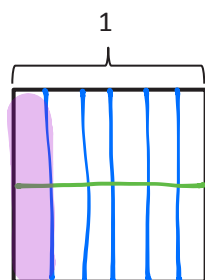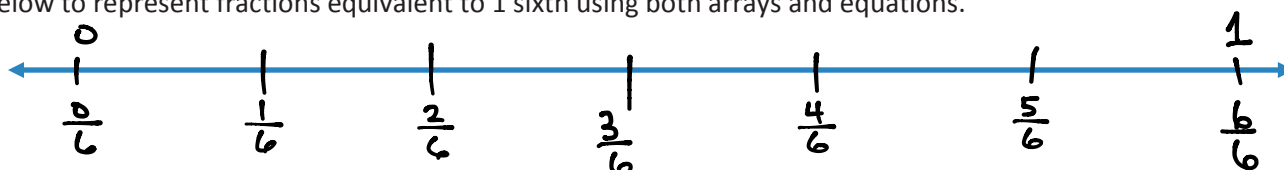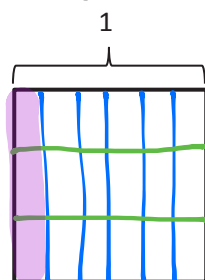# Solutions

GRADE 5
MODULE 3
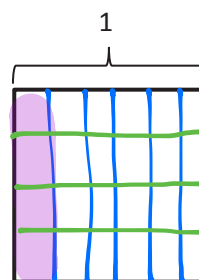
Name _____   Date _____

Estimate to mark points 0 and 1 above the number line, and $\frac{0}{6}$, $\frac{1}{6}$, $\frac{2}{6}$, $\frac{3}{6}$, $\frac{4}{6}$, $\frac{5}{6}$, and $\frac{6}{6}$ below it. Use the squares below to represent fractions equivalent to 1 sixth using both arrays and equations.

$$\frac{1}{6} = \frac{1 \times 2}{6 \times 2} = \frac{2}{12}$$

$$\frac{1}{6} = \frac{1 \times 3}{6 \times 3} = \frac{3}{18}$$

$$\frac{1}{6} = \frac{1 \times 4}{6 \times 4} = \frac{4}{24}$$

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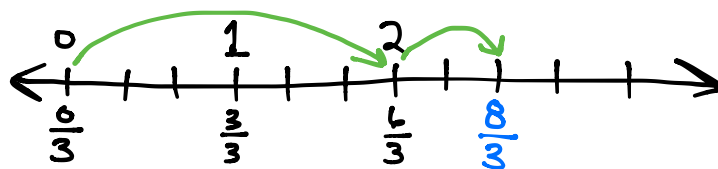Lesson 1:   Make equivalent fractions with the number line, the area model, and numbers.

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Name _____   Date _____

1. Show each expression on a number line. Solve.

   a. $\frac{5}{5} + \frac{2}{5}$ = $\frac{7}{5}$ = $1\frac{2}{5}$
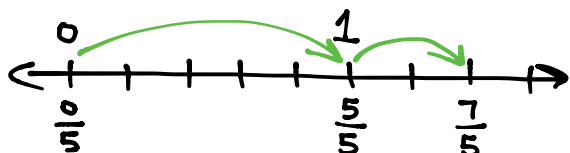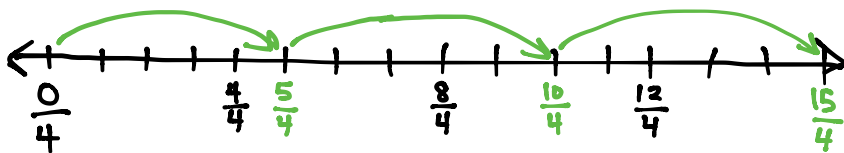

   b. $\frac{6}{3} + \frac{2}{3}$ = $\frac{8}{3}$ = $2\frac{2}{3}$

2. Express each fraction as the sum of two or three equal fractional parts. Rewrite each as a multiplication equation. Show Part (b) on a number line.

   a. $\frac{6}{9}$ = $\frac{2}{9} + \frac{2}{9} + \frac{2}{9}$

   = $3 \times \frac{2}{9}$

   b. $\frac{15}{4}$ = $\frac{5}{4} + \frac{5}{4} + \frac{5}{4}$

   = $3 \times \frac{5}{4}$

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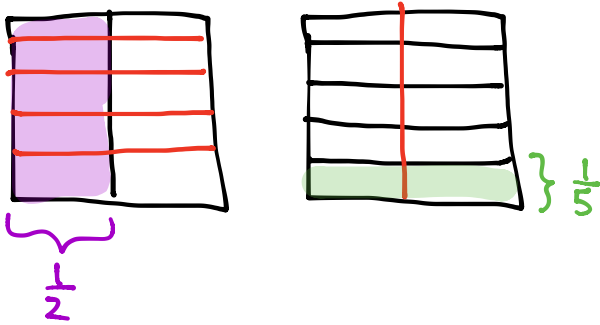**Lesson 2:** Make equivalent fractions with sums of fractions with like denominators.
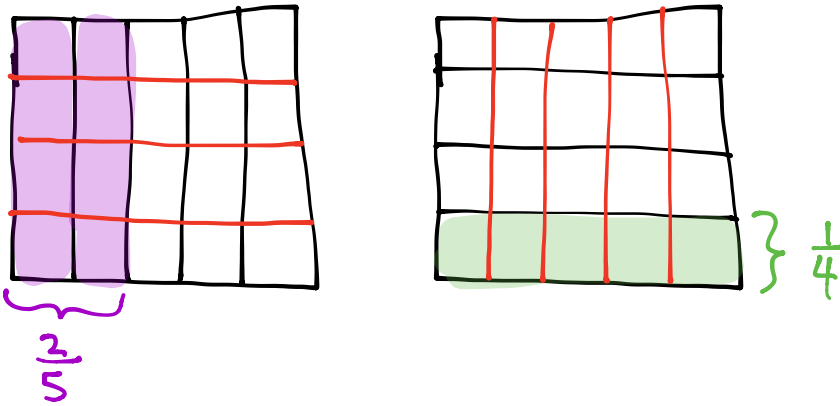
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Name _____ Date _____

Solve by drawing the rectangular fraction model.

1. $\frac{1}{2} + \frac{1}{5} = \frac{5}{10} + \frac{2}{10} = \frac{7}{10}$

$\frac{1}{2}$

2. In one hour, Ed used $\frac{2}{5}$ of the time to complete his homework and $\frac{1}{4}$ of the time to check his email. How much time did he spend completing homework and checking email? Write your answer as a fraction. (Extension: Write the answer in minutes.)

$\frac{2}{5} + \frac{1}{4} = \frac{8}{20} + \frac{5}{20} = \frac{13}{20}$
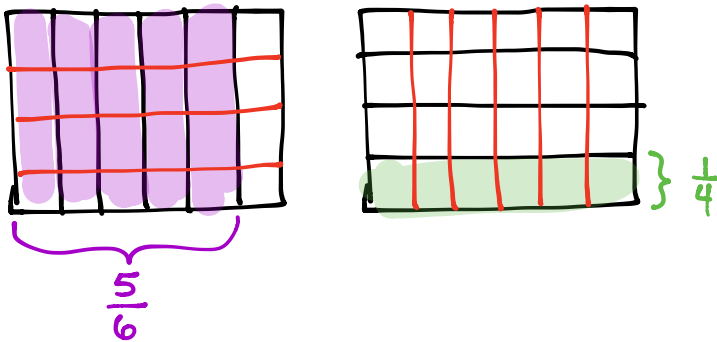

$\frac{2}{5}$

Extension: one-twentieth of 60 minutes is 60 min ÷ 20 = 3 minutes

13 × 3 minutes = 39 minutes

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Lesson 3: Add fractions with unlike units using the strategy of creating equivalent fractions.
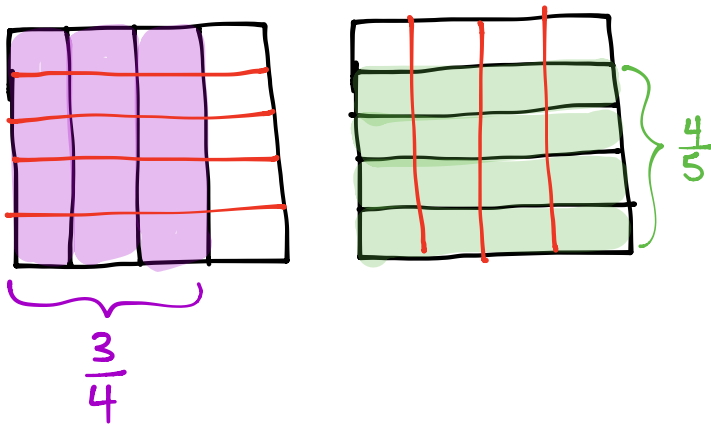
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Name _____   Date _____

1. Draw a model to help solve $\frac{5}{6} + \frac{1}{4}$. Write your answer as a mixed number.

$$\frac{5}{6} + \frac{1}{4} = \frac{20}{24} + \frac{6}{24} = \frac{26}{24} = \frac{24}{24} + \frac{2}{24} = 1\frac{2}{24}$$

$\frac{5}{6}$

$\} \frac{1}{4}$

2. Patrick drank $\frac{3}{4}$ liter of water Monday before jogging. He drank $\frac{4}{5}$ liter of water after his jog.
    How much water did Patrick drink altogether? Write your answer as a mixed number.

$$\frac{3}{4} + \frac{4}{5} = \frac{15}{20} + \frac{16}{20} = \frac{31}{20} = \frac{20}{20} + \frac{11}{20} = 1\frac{11}{20}$$

$\frac{3}{4}$

$\} \frac{4}{5}$

Patrick drank
1 $\frac{11}{20}$ liters of water
altogether.

Name _____   Date _____

For the following problems, draw a picture using the rectangular fraction model and write the answer. Simplify your answer, if possible.

a. $\frac{1}{2} - \frac{1}{7} = \frac{7}{14} - \frac{2}{14} = \frac{5}{14}$

b. $\frac{3}{5} - \frac{1}{2} = \frac{6}{10} - \frac{5}{10} = \frac{1}{10}$

$\frac{1}{2}$ $\}\frac{1}{7}$

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

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Lesson 5: Subtract fractions with unlike units using the strategy of creating equivalent fractions.

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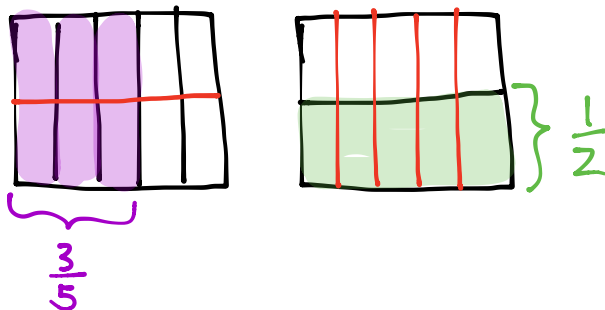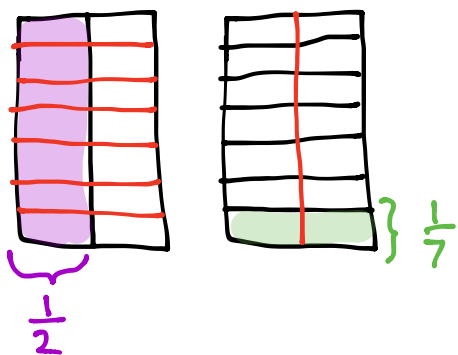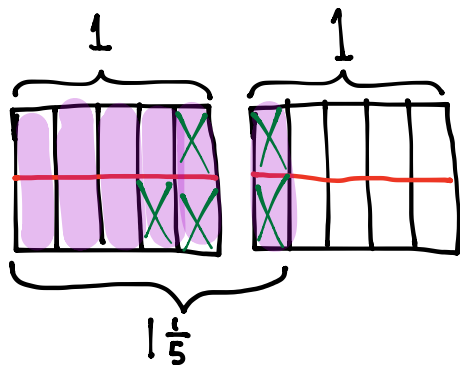G5-M3-TE-BK3-1.3.0-06.2015

Name _____   Date _____

For the following problems, draw a picture using the rectangular fraction model and write the answer. Simplify your answer, if possible.

a. $1\frac{1}{5} - \frac{1}{2} =$ $\frac{6}{5} - \frac{1}{2} = \frac{12}{10} - \frac{5}{10} = \frac{7}{10}$

b. $1\frac{1}{3} - \frac{5}{6} =$

$\frac{4}{3} - \frac{5}{6} = \frac{24}{18} - \frac{15}{18} = \frac{9}{18}$

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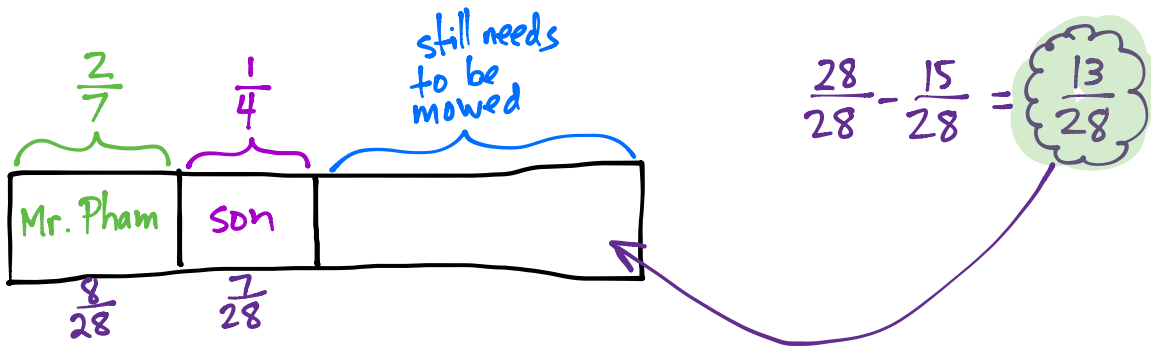**Lesson 6:**   Subtract fractions from numbers between 1 and 2.
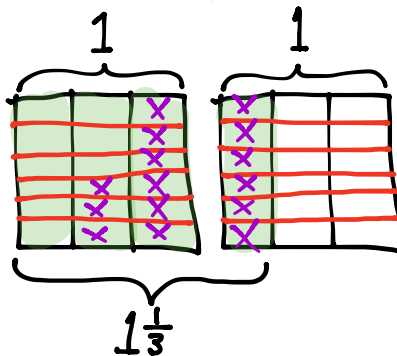
Name _____   Date _____

Solve the word problem using the RDW strategy. Show all of your work.

Mr. Pham mowed $\frac{2}{7}$ of his lawn. His son mowed $\frac{1}{4}$ of it. Who mowed the most? How much of the lawn still needs to be mowed?

$\frac{2}{7}$ $\frac{1}{4}$ still needs to be mowed

Mr. Pham	son	

$\frac{8}{28}$ $\frac{7}{28}$

$\frac{28}{28} - \frac{15}{28} = \frac{13}{28}$

$\frac{2}{7} + \frac{1}{4} = \frac{8}{28} + \frac{7}{28} = \frac{15}{28}$

$\frac{2}{7}$

$\frac{1}{4}$
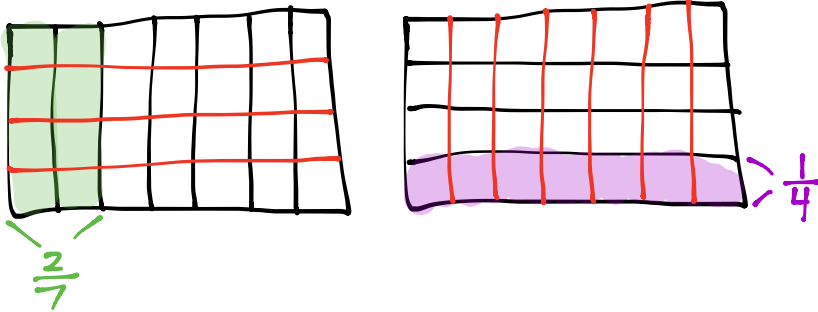
Mr Pham mowed more lawn than his son.

$\frac{13}{28}$ of the lawn still needs to be mowed.

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Name _____   Date _____

Add or subtract.

a. $5 + 1\frac{7}{8} =$ $6\frac{7}{8}$

b. $3 - 1\frac{3}{4} =$ $1\frac{1}{4}$

c. $7\frac{3}{8} + 4 =$ $11\frac{3}{8}$
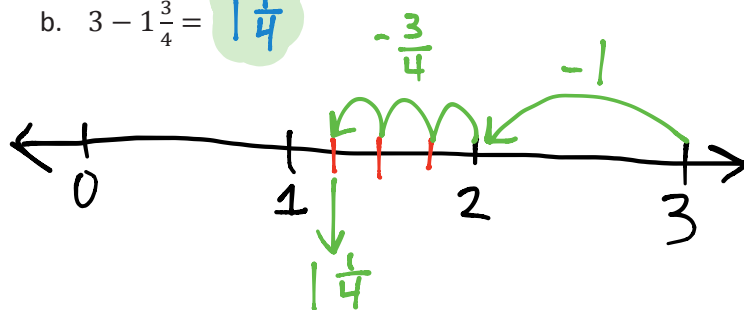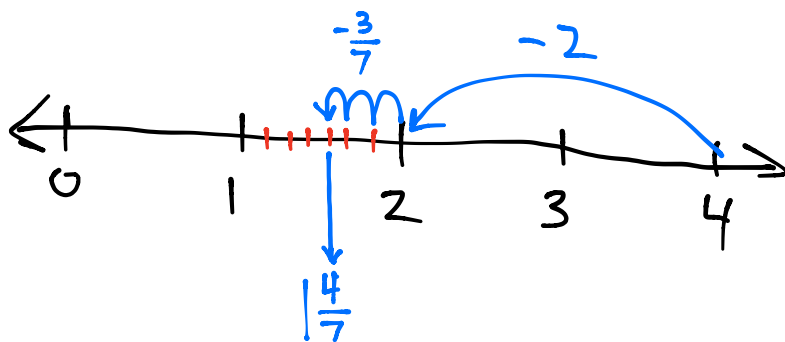
d. $4 - 2\frac{3}{7} =$ $1\frac{4}{7}$

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Lesson 8:   Add fractions to and subtract fractions from whole numbers using
equivalence and the number line as strategies.

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Name _____   Date _____

Make like units, and then add.

a. $\frac{1}{6} + \frac{3}{4} =$ b. $1\frac{1}{2} + \frac{2}{5} =$

$$= \frac{1 \times 2}{6 \times 2} + \frac{3 \times 3}{4 \times 3}$$

$$= \frac{2}{12} + \frac{9}{12}$$

$$= \frac{11}{12}$$

$$= 1 + \frac{1}{2} + \frac{2}{5}$$

$$= 1 + \frac{1 \times 5}{2 \times 5} + \frac{2 \times 2}{5 \times 2}$$

$$= 1 + \frac{5}{10} + \frac{4}{10}$$

$$= 1\frac{9}{10}$$

Name _____   Date _____

Add.

1. $3\frac{1}{2} + 1\frac{1}{3} =$

$= 3 + \frac{1}{2} + 1 + \frac{1}{3}$

$= 4 + \frac{1 \times 3}{2 \times 3} + \frac{1 \times 2}{3 \times 2}$

$= 4 + \frac{3}{6} + \frac{2}{6}$

$= 4\frac{5}{6}$

2. $4\frac{5}{7} + 3\frac{3}{4} =$

$= 4 + \frac{5}{7} + 3 + \frac{3}{4}$

$= 7 + \frac{5 \times 4}{7 \times 4} + \frac{3 \times 7}{4 \times 7}$

$= 7 + \frac{20}{28} + \frac{21}{28}$

$= 7\frac{41}{28}$

$= 7\frac{28}{28} + \frac{13}{28}$

$= 8\frac{13}{28}$

Name _____   Date _____

Generate equivalent fractions to get like units. Then, subtract.

a. $\frac{3}{4} - \frac{3}{10} =$ $\frac{3 \times 5}{4 \times 5} - \frac{3 \times 2}{10 \times 2} = \frac{15}{20} - \frac{6}{20} = \frac{9}{20}$

b. $3\frac{1}{2} - 1\frac{1}{3} =$

$= 3\frac{1 \times 3}{2 \times 3} - 1\frac{1 \times 2}{3 \times 2}$

$= 3\frac{3}{6} - 1\frac{2}{6}$

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

Name _____   Date _____

Subtract.

1. $5\frac{1}{2} - 1\frac{1}{3} = 5\frac{1\times3}{2\times3} - 1\frac{1\times2}{3\times2} = 5\frac{3}{6} - 1\frac{2}{6} = 4\frac{1}{6}$

2. $8\frac{3}{4} - 5\frac{5}{6} = 8\frac{3\times3}{4\times3} - 5\frac{5\times2}{6\times2} = 8\frac{9}{12} - 5\frac{10}{12}$

$= 3\frac{9}{12} - \frac{10}{12}$

$2\frac{12}{12} \quad \frac{9}{12}$

$= 2\frac{21}{12} - \frac{10}{12}$

$= 2\frac{11}{12}$

Name _____   Date _____

1. Circle the correct answer.

   a. $\frac{1}{2} + \frac{5}{12}$ greater than 1   (less than 1)

   b. $2\frac{7}{8} - 1\frac{7}{9}$ (greater than 1)   less than 1

   c. $1\frac{1}{12} - \frac{7}{10}$ greater than $\frac{1}{2}$ (less than $\frac{1}{2}$)

   d. $\frac{3}{7} + \frac{1}{8}$ (greater than $\frac{1}{2}$)   less than $\frac{1}{2}$

2. Use > , < , or = to make the following statement true.

$$4\frac{4}{5} + 3\frac{2}{3} \;\;<\;\; 8\frac{1}{2}$$

Handwritten note (red/blue):

NOTE:

These estimations are unnecessarily precise. Using rough estimation is just fine. For example:

$$4\frac{4}{5} + 3\frac{2}{3}$$
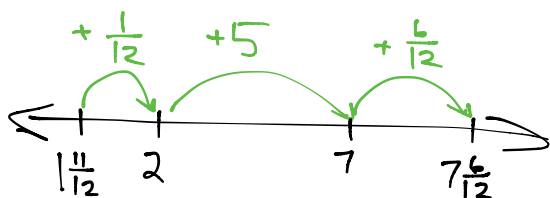$$\approx 5 + 3\frac{1}{2}$$
$$= 8\frac{1}{2}$$

Lesson 13:   Use fraction benchmark numbers to assess reasonableness of addition and subtraction equations.

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Name _____   Date _____

Fill in the blank to make the statement true.

1. $1\frac{3}{4} + \frac{1}{6} + $ _____ $= 7\frac{1}{2}$

2. $8\frac{4}{5} - \frac{2}{3} - $ _____ $= 3\frac{1}{10}$

$$\frac{3\times3}{4\times3} + \frac{1\times2}{6\times2} + \underline{} = 7\frac{1}{2}$$

$$\frac{9}{12} + \frac{2}{12} + \underline{} = 7\frac{6}{12}$$

$$1\frac{11}{12} + 5\frac{7}{12} = 7\frac{6}{12}$$

$$8\frac{24}{30} - \frac{20}{30} - \underline{} = 3\frac{3}{30}$$

$$8\frac{4}{30} - 5\frac{1}{30} = 3\frac{3}{30}$$

$+\frac{1}{12}$ $+5$ $+\frac{6}{12}$

$1\frac{11}{12}$ 2 7 $7\frac{6}{12}$

Name _____   Date _____

Solve the word problem using the RDW strategy. Show all of your work.

Cheryl bought a sandwich for $5\frac{1}{2}$ dollars and a drink for $2.60. If she paid for her meal with a $10 bill, how much money did she have left? Write your answer as a fraction and in dollars and cents.

NOTE: This is <u>NOT</u> an appropriate question for the exit ticket because it involves <u>decimals</u> while <u>none</u> of the questions in the Problem Set had decimals. Consider using this question...

Original Question:

$5.50 + 2.60 = \$8.10$

$$\begin{array}{r} 10.00 \\ -\ 8.10 \\ \hline 1.90 \end{array}$$

$\$1.90 = 1\frac{9}{10} \text{ or } 1\frac{90}{100}$

Cheryl bought 10 feet of ribbon. She used 5 1/2 feet while making her dress and 2 3/5 feet to make a dress for her doll. How much ribbon does she have left?

$5\frac{1}{2} + 2\frac{3}{5} = 5\frac{5}{10} + 2\frac{6}{10}$
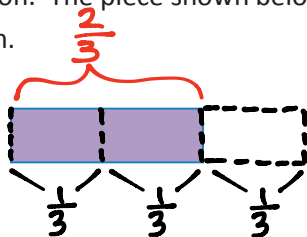$$= 7\frac{11}{10} = 8\frac{1}{10}$$

$10 - 8\frac{1}{10} = 9\frac{10}{10} - 8\frac{1}{10}$
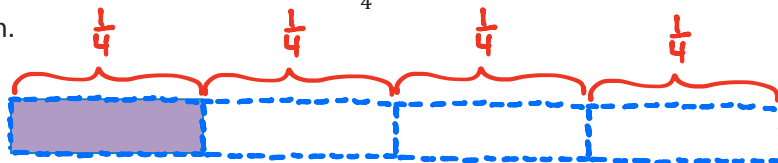$$= 1\frac{9}{10}$$

Name _____   Date _____

Draw the following ribbons.

a.   1 ribbon. The piece shown below is only $\frac{2}{3}$ of the whole. Complete the drawing to show the whole ribbon.

b.   1 ribbon. The piece shown below is $\frac{1}{4}$ of the whole. Complete the drawing to show the whole ribbon.

c.   3 ribbons, A, B, and C. 1 third of A is the same length as B. C is half as long as B. Draw a picture of the ribbons.