

Name: Key

Date:

Block:

Topic 5 Study Guide: Adding and Subtracting Rational Numbers

Directions: Read each question carefully. Circle important information and underline the question. Then solve. Show all of your work.

1. Find the value of these expressions.

a. $97.67 - 88.82 = 8.85$

$$\begin{array}{r} 97.67 \\ -88.82 \\ \hline 8.85 \end{array}$$

$$\begin{array}{r} 2.49 \\ -0.149 \\ \hline 2.341 \end{array}$$

$$\begin{array}{r} 10.5 \\ 2.78 \\ +15.5 \\ \hline 28.78 \end{array}$$

b. $2.49 - 0.149 = 2.341$

c. $10.5 + 2.78 + 15.5 = 28.78$

2. Give the value of each expression in fraction form.

a. $7.1 - 3.35 = 3\frac{3}{4}$

$$\begin{array}{r} 7.10 \\ -3.35 \\ \hline 3.75 \\ 3\frac{3}{4} \end{array}$$

$$\begin{array}{r} 3\frac{5}{8} \\ -2\frac{3}{4} \\ \hline 1\frac{1}{8} \end{array}$$

$$\begin{array}{r} \frac{7}{8} \\ -\frac{1}{8} \\ \hline \frac{6}{8} = \frac{3}{4} \end{array}$$

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

3. $\frac{8}{5} + 1\frac{3}{4} + 1.8$ List some expressions that would have the same value as the expression above.

$1.6 + 1.75 + 1.8$, $1.60 + 1.75 + 1.80$,
 $1\frac{3}{5} + 1\frac{3}{4} + 1\frac{8}{10}$, $1\frac{3}{5} + 1\frac{3}{4} + 1\frac{4}{5}$,
 $\frac{8}{5} + \frac{7}{4} + \frac{18}{10}$, $\frac{32}{20} + \frac{35}{20} + \frac{36}{20}$

These are just a few of the correct solutions.

4. Kelly works at an ice cream shop and makes \$5.28 per hour. Joe works for a landscaper and makes \$4.45 per hour. How much more does Kelly make each hour?

$$\begin{array}{r} \$5.28 \\ -4.45 \\ \hline \$0.83 \text{ more per hour} \end{array}$$

$$\begin{array}{r} 15 = 14\frac{4}{4} \\ -7\frac{3}{4} = 7\frac{3}{4} \\ \hline 7\frac{1}{4} \end{array}$$

5. Mason set a weekly goal of jogging 15 miles. After 4 days, he has jogged 7 $\frac{3}{4}$ miles. How many more miles must he jog to reach his goal?

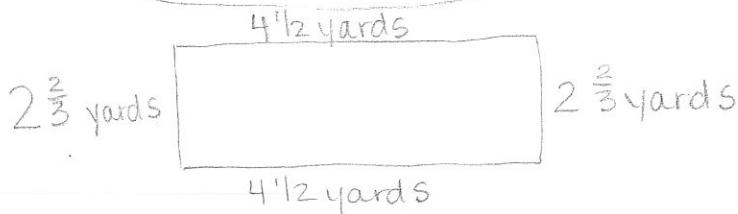
$7\frac{1}{4}$ more miles.

6. Rachel has a math quiz every 10 days and a social studies quiz every 15 days. Today she has both quizzes. When is the next time she will have both quizzes on the same day? (LCM)

10: 10, 20, 30, 40, 50, 60
 15: 15, 30, 45, 60

Every 30 days Rachel will have both quizzes.

7. What is the perimeter of a rectangle if the length is $4\frac{1}{2}$ yards and the width is $2\frac{2}{3}$ yards?



Perimeter = the distance around the rectangle.

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

$$4\frac{3}{6} + 4\frac{3}{6} + 2\frac{4}{6} + 2\frac{4}{6} = 12\frac{14}{6} = 14\frac{2}{6} = 14\frac{1}{3} \text{ Yards}$$

8. Mrs. Cahoon's flower garden has a length of 150.5 centimeters. The width is 40.75 centimeters less than the length. What is the width of the flower garden in centimeters?

$$\begin{array}{r} 150.50 \\ - 40.75 \\ \hline 109.75 \text{ centimeters} \end{array}$$

9. A recipe for the filling in cinnamon rolls at the school cafeteria asks for $3\frac{1}{2}$ cups of sugar, 2 sticks of butter, and $\frac{3}{4}$ cup of cinnamon. The baker wants to pre-mix the cinnamon and sugar. What is the total number of cups of sugar and cinnamon the baker will pre-mix?

Sugar $3\frac{1}{2} = 3\frac{2}{4}$

Cinnamon $+ \frac{3}{4} = \frac{3}{4}$

$$3\frac{2}{4} + \frac{3}{4} = 3\frac{5}{4} = 4\frac{1}{4} \text{ cups of sugar and cinnamon}$$

10. Maddie cut pink paper strips for her scrapbook. She cut a $5\frac{1}{2}$ inch strip from a 15 inch strip. What is the length in inches of the strip that remains?

$$\begin{array}{r} 15 \\ - 5\frac{1}{2} \\ \hline 9\frac{1}{2} \text{ inches} \end{array}$$