

Lesson 9: Sums and Differences of Decimals

Classwork

Example 1

$$25\frac{3}{10} + 376\frac{77}{100}$$

$$25.3 + 376.77$$

$$25 + 377 = 402$$

$$\begin{array}{r} 25.3 \\ 376.77 \\ \hline 402.07 \end{array}$$

Example 2

$$426\frac{1}{5} - 275\frac{1}{2}$$

$$426 - 276 = 150$$

$$\begin{array}{r} 426.2 \\ - 275.5 \\ \hline 150.7 \end{array}$$

Exercises

Calculate each sum or difference.

1. Samantha and her friends are going on a road trip that is $245\frac{7}{50}$ miles long. They have already driven $128\frac{53}{100}$.
How much farther do they have to drive?

$$245\frac{7}{50} - 128\frac{53}{100}$$

estimate $245 - 129 = 116$

$$\begin{array}{r} 245.14 \\ - 128.53 \\ \hline 116.61 \end{array}$$

2. Ben needs to replace two sides of his fence. One side is $367\frac{9}{100}$ meters long, and the other is $329\frac{3}{10}$ meters long.
How much fence does Ben need to buy?

$$367\frac{9}{100} + 329\frac{3}{10}$$

$$\begin{array}{r} 367 \\ 329 \\ \hline 696 \end{array}$$

$$367.09 + 329.3$$

$$\begin{array}{r} 367.09 \\ 329.30 \\ \hline 696.39 \end{array}$$

3. Mike wants to paint his new office with two different colors. If he needs $4\frac{4}{5}$ gallons of red paint and $3\frac{1}{10}$ gallons of brown paint, how much paint does he need in total?

$$4\frac{4}{5} + 3\frac{1}{10} \quad 5 + 3 = 8$$

$$4\frac{8}{10} + 3\frac{1}{10} = \begin{array}{r} 4.8 \\ + 3.1 \\ \hline 7.9 \end{array} \quad 7.9 \text{ gallons}$$

$$\begin{array}{r} 7.9 \\ \hline 7\frac{9}{10} \end{array}$$

4. After Arianna completed some work, she figured she still had $78\frac{21}{100}$ pictures to paint. If she completed another $34\frac{23}{25}$ pictures, how many pictures does Arianna still have to paint?

$$78\frac{21}{100} - 34\frac{23}{25}$$

$$\begin{array}{r} 78\frac{21}{100} \\ - 34\frac{92}{100} \\ \hline 43\frac{29}{100} \end{array}$$

$$\begin{array}{r} 78 \\ - 35 \\ \hline 43 \end{array}$$

$$43.29$$

Use a calculator to convert the fractions into decimals before calculating the sum or difference.

5. Rahzel wants to determine how much gasoline he and his wife use in a month. He calculated that he used $78\frac{1}{3}$ gallons of gas last month. Rahzel's wife used $41\frac{3}{8}$ gallons of gas last month. How much total gas did Rahzel and his wife use last month? Round your answer to the nearest hundredth.

$$78\frac{1}{3} + 41\frac{3}{8}$$

$$78.333 + 41.375$$

$$\begin{array}{r} 78 \\ + 41 \\ \hline 119 \end{array}$$

$$\begin{array}{r} 78.333 \\ + 41.375 \\ \hline 119.708 \end{array}$$

$$\approx 119.71$$

Problem Set

1. Find each sum or difference.

a. $381\frac{1}{10} - 214\frac{43}{100}$

$$\begin{array}{r} 7 \text{ } 10 \text{ } 100 \\ 381.10 \\ - 214.43 \\ \hline 166.67 \end{array}$$

b. $32\frac{3}{4} - 12\frac{1}{2}$

$$\begin{array}{r} 32.75 \\ - 12.50 \\ \hline 20.25 \end{array}$$

$$\begin{array}{r} 421.06 \\ - 212.90 \\ \hline 208.16 \end{array}$$

c. $517\frac{37}{50} + 312\frac{3}{100}$

$$\begin{array}{r} 517.74 \\ + 312.03 \\ \hline 829.77 \end{array}$$

$$\begin{array}{r} 632.64 \\ + 32.3 \\ \hline 664.94 \end{array}$$

d. $632\frac{16}{25} + 32\frac{3}{10}$

e. $421\frac{3}{50} - 212\frac{9}{10}$

2. Use a calculator to find each sum or difference. Round your answer to the nearest hundredth.

a. $422\frac{3}{7} - 367\frac{5}{9}$

b. $23\frac{1}{5} + 45\frac{7}{8}$

$$\begin{array}{l} \text{Jan +} \\ \text{do} \\ a) \frac{1}{10} = .1 \text{ or } .10 \\ \frac{43}{100} = .43 \end{array}$$

$$\begin{array}{l} b) \frac{3}{4} = \frac{75}{100} = .75 \\ \frac{1}{2} = \frac{50}{100} = .5 \text{ or } .50 \end{array}$$

$$\begin{array}{l} c) \frac{37}{50} = \frac{74}{100} = .74 \\ \frac{3}{100} = .03 \end{array}$$

$$\begin{array}{l} d) \frac{16}{25} = \frac{64}{100} = .64 \\ \frac{3}{10} = .3 \text{ or } .30 \end{array}$$

$$\begin{array}{l} e) \frac{3}{50} = \frac{6}{100} = .06 \\ \frac{9}{10} = .9 \text{ or } .90 \end{array}$$