

Lesson 9: Sums and Differences of Decimals

Classwork

Example 1

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

Step 1: Convert the mixed #'s to decimals.

$$25.3 + 376.77$$

Step 2: Round the addends to the nearest whole number.

$$25 + 377 = 402$$

Step 3: Line up the addends appropriately using place value & then add

$$\begin{array}{r} 25.30 \\ + 376.77 \\ \hline 402.07 \end{array}$$

Example 2

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

Decimals

1. Convert mixed to Decimals

$$\frac{1}{5} = 0.2 \quad \frac{0.2}{5/10} = 426.2$$

$$\frac{1}{2} = 0.5 = 275.5$$

2. Round the addends to the nearest whole #.

$$426 - 276 = 150$$

3. Line up the addends appropriately using place value & then add.

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

Fractions

$$426\frac{1}{5} = \frac{2131}{5} \times 2 = \frac{4262}{10}$$

$$275\frac{1}{2} = \frac{551}{2} \times 5 = \frac{2755}{10}$$

$$\begin{array}{r} 4262 \\ - 2755 \\ \hline 1507 \end{array}$$

$$\frac{1507}{10} = 150\frac{7}{10}$$

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?

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

$$7/50 = 0.14 \quad 53/100 = .53$$

$$245.14 - 128.53$$

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

They have to drive 116.61 more miles.

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?

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

$$367.09 + 329.3$$

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

Ben needs to buy 696.39 meters long of fence.

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?

$$4\frac{4}{5} + 3\frac{1}{10}$$

$$4/5 = 0.8 \quad 1/10 = .1$$

$$4.8 + 3.1$$

$$\begin{array}{r} 4.8 \\ +3.1 \\ \hline 7.9 \end{array}$$

$$4\frac{4}{5} = \frac{24}{5} \times 2 \frac{48}{10}$$

$$3\frac{1}{10} = \frac{31}{10}$$

$$\frac{79}{10} = 7\frac{9}{10}$$

MIKE needs 7.9 gal. of paint.

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?

$$78\frac{21}{100} \quad 34\frac{23}{25} \quad \frac{23}{25} = 0.92$$

$$78.21 - 34.92$$

$$\begin{array}{r} 78.21 \\ - 34.92 \\ \hline 43.29 \end{array}$$

Arianna still needs to paint 43.29 pictures.

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.

$$78\frac{1}{3}$$

$$41\frac{3}{8}$$

$$\frac{1}{3} = 0.333$$

$$\frac{3}{8} = 0.375$$

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

Round to hundredth 119.71

Rahzel & his wife used 119.71 gal. of gas last year.