

Lesson 2-4

Thursday, September 19, 2019 8:42 AM

Name _____

Lesson 2-4 Add Decimals

Solve & Share
Mr. Davidson has two sacks of potatoes. The first sack weighs 11.39 pounds. The second sack weighs 14.27 pounds. How many pounds of potatoes does Mr. Davidson have in all? *Solve this problem any way you choose.*

I can ...
add decimals using the standard algorithm.

Content Standard 5.NBT.B.7
Mathematical Practices MP2, MP3, MP4, MP8

You can **generalize** what you know about whole number addition to decimal addition.

t = total pounds
 $11.39 \text{ lbs} + 14.27 \text{ lbs} = t$
 $11.39 + 14.27 = t$
About $11 + 14 = 25$



$$\begin{array}{r} 11.39 \\ + 14.27 \\ \hline 25.66 \end{array}$$

25.66 lbs. of potatoes

Look Back! **MP.8 Generalize** How is adding decimals like adding whole numbers?
You must line up the place values and regroup when necessary.

How Can You Add Decimals?

A swim team participated in a relay race. The swimmers' times for each leg of the race were recorded in a table. What was the combined time for Caleb and Bradley's legs of the relay race?

You can find $21.49 + 21.59$, but estimate first: $21 + 22 = 43$.



Swimmers in Relay	Time in Seconds
Caleb	21.49
Bradley	21.59
Vick	20.35
Matthew	19.03

Step 1

Write the numbers, lining up the decimal points.

$$\begin{array}{r} 21.49 \\ + 21.59 \\ \hline \end{array}$$



Adding decimals is just like adding whole numbers!

Step 2

Add the hundredths. Regroup if necessary.

$$\begin{array}{r} 21.49 \\ + 21.59 \\ \hline 8 \end{array}$$

Step 3

Add the tenths, ones, and tens. Align the decimal point in the sum with the decimal point in the addends. Compare the sum to your estimate.

$$\begin{array}{r} 21.49 \\ + 21.59 \\ \hline 43.08 \end{array}$$

The combined time for Caleb and Bradley was 43.08 seconds. The sum is close to the estimate.

Convince Me! **MP.3 Critique Reasoning** André said the last two legs of the race took 3,938 seconds. What mistake did he make?

$$\begin{array}{r} 20.35 + 19.03 = 5 \\ 20 + 19 \approx 39 \\ \hline 39.38 \end{array}$$

André forgot his decimal.
Also 3,938 is not reasonable if the estimate is 39 seconds.

Name _____



Another Example

Carson ran 7.81 miles last week. He ran 14 miles this week. How many miles did he run in the two weeks?

Step 1

Write the numbers, lining up the decimal points.

Annex two zeros so that both addends have the same number of decimal places.

$$\begin{array}{r} 14.00 \\ + 7.81 \\ \hline \end{array}$$

Step 2

Add the hundredths. Regroup if necessary.

$$\begin{array}{r} 14.00 \\ + 7.81 \\ \hline 1 \end{array}$$

Step 3

Add the tenths, ones, and tens. Align the decimal point in the sum with the decimal point in the addends.

$$\begin{array}{r} 14.00 \\ + 7.81 \\ \hline 21.81 \end{array}$$

Carson ran 21.81 miles in all.

Guided Practice

Do You Understand?

- In the example on page 78, what was the combined time for the middle two legs of the relay race?

$$\begin{array}{r} 21.59 \\ + 20.35 \\ \hline 41.94 \end{array}$$

41.94 sec.

Do You Know How?

In 2–5, find each sum.

2. $22 + 20 \approx 42$

$$\begin{array}{r} 0.82 \\ + 4.21 \\ \hline \end{array}$$

3. 14.25

$$\begin{array}{r} 14.25 \\ + 7.21 \\ \hline \end{array}$$

5. 0.3

$$\begin{array}{r} 5.03 \\ \hline \end{array}$$

4. $0.26 + 8.3$

$$\begin{array}{r} 0.26 \\ + 8.30 \\ \hline 8.56 \end{array}$$

5. $4.98 + 3.02$

$$\begin{array}{r} 4.98 \\ + 3.02 \\ \hline 8.00 \end{array}$$

$9 + 7 = 16$

$$\begin{array}{r} 4.98 \\ + 3.02 \\ \hline 8.00 \end{array}$$

$$\begin{array}{r} 8.30 \\ + 0.26 \\ \hline 8.56 \end{array}$$

$$\begin{array}{r} 3.02 \\ + 5.00 \\ \hline 8.00 \end{array}$$

Independent Practice

Leveled Practice In 6–12, find each sum.

6. $1.03 + 0.36 = 1.39$
 7. $6.9 + 2.8 = 9.7$
 8. $45.08 + 2.01 = 47.09$
 9. $2.00 + 0.78 = 2.78$
 10. $\$271.90 + \$34.22 = \$306.12$
 11. $7.2 + 3.96 + 8.8 = 19.96$
 12. $16.62 + 4 + 2.38 = 23.00$

You can estimate first to be sure your answers are reasonable.



Complete 8, 10, 16 & 18

$$\begin{array}{r} 271.90 \\ + 34.22 \\ \hline 306.12 \end{array}$$

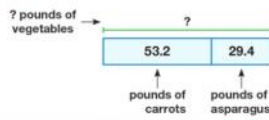
$270 + 30 \approx 300$

*For another example, see Set D on page 104.

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Math Practices and Problem Solving

13. **MP.4 Model with Math** A farmer sold 53.2 pounds of carrots and 29.4 pounds of asparagus to a restaurant. How many pounds of these two vegetables did the restaurant buy?



For 14 and 15, use the table.

14. **Math and Science** Which two cities have the greatest combined rainfall for a typical year?
 15. **Number Sense** Which location had less than 45 inches of rain but more than 40 inches of rain?



Location	Rainfall Amount in a Typical Year (in inches)
Macon, GA	45
Boise, ID	12.19
Caribou, ME	37.44
Springfield, MO	44.97

16. **Higher Order Thinking** Tim earned \$16 babysitting and \$17.50 mowing a lawn. He paid \$8.50 for a movie and bought a small popcorn for \$1.95. Write an expression to show how much money he has left.
 17. **MP.3 Critique Reasoning** Juan adds $3.8 + 4.6$ and gets a sum of 84. Is his answer correct? Tell how you know.

$16 + 17.50 - 8.50 - 1.95$

Common Core Assessment

18. Choose all expressions that are equal to 12.9.
 $0.02 + 0.88$
 $0.02 + 12.03$
 11.02
 $6.2 + 3.4 + 2.3$
 $3.02 + 2.01 + 7.7$
19. Choose all expressions that are equal to 16.02.
 $16 + 0.02$
 $3.42 + 8 + 4.6$
 $16.01 + 1$
 $12.06 + 3.14$
 $7.36 + 8.66$

$$\begin{array}{r} 12.00 \\ + 0.88 \\ \hline 12.88 \end{array}$$

$$\begin{array}{r} 12.03 \\ + 0.06 \\ \hline 12.09 \end{array}$$

$$\begin{array}{r} 11.9 \\ + 0.10 \\ \hline 12.00 \end{array}$$

D. 6.2
 E. 3.01

$$\begin{array}{r} \text{D.} \quad 6.2 \\ \quad \quad 3.4 \\ + \quad 2.3 \\ \hline 11.9 \end{array}$$

$$\begin{array}{r} \text{E.} \quad 3.01 \\ \quad \quad 2.01 \\ + \quad 7.70 \\ \hline 12.72 \end{array}$$