



LESSON

# 10

## Adding and Subtracting Decimals

**EXAMPLE A** Find the sum.

$$523.7 + 94.34$$

1

Line up the decimal points in the addends.

$$\begin{array}{r} 523.7 \\ + 94.34 \\ \hline \end{array}$$

2

Use zeros as placeholders.

$$\begin{array}{r} 523.70 \\ + 94.34 \\ \hline \end{array}$$

3

Add from right to left.

$$\begin{array}{r} 1 \quad 1 \\ 523.70 \\ + 94.34 \\ \hline 618.04 \end{array}$$

4

Place the decimal point in the sum.

$$\begin{array}{r} 1 \quad 1 \\ 523.70 \\ + 94.34 \\ \hline 618.04 \end{array}$$

►  $523.7 + 94.34 = 618.04$

**DISCUSS**

Why do you line up the decimal points when you add decimal numbers?

**EXAMPLE B** Add.

$$265.647 + 182.095 = y$$

**1**

Line up the decimal points.

$$\begin{array}{r} 265.647 \\ + 182.095 \\ \hline \end{array}$$

**2**

Add.

$$\begin{array}{r} 1 \quad 11 \\ 265.647 \\ + 182.095 \\ \hline 447.742 \end{array}$$

**3**

Place the decimal point in the sum.

$$\begin{array}{r} 1 \quad 11 \\ 265.647 \\ + 182.095 \\ \hline 447.742 \end{array}$$

**4**

Estimate to check that the sum is reasonable.

Round each addend to the nearest hundred.

265.647 rounds to 300.

182.095 rounds to 200.

The estimated sum is about  $300 + 200$ , or 500.

The exact sum, 447.742, is close to 500.

So the sum is reasonable.

►  $y = 447.742$

**TRY**

Add.

$$9.736 + 0.86 = w$$

**EXAMPLE C** Find the difference.

$$375.6 - 118.26$$

1

Set up the problem to subtract vertically.  
Line up the decimal points.

$$\begin{array}{r} 375.6 \\ -118.26 \\ \hline \end{array}$$

2

Use zeros as placeholders.

$$\begin{array}{r} 375.60 \\ -118.26 \\ \hline \end{array}$$

3

Subtract from right to left.

$$\begin{array}{r} 615\ 510 \\ 37\cancel{5}.\cancel{6}\cancel{0} \\ -118.26 \\ \hline 257\ 34 \end{array}$$

4

Place the decimal point in the difference.

$$\begin{array}{r} 615\ 510 \\ 37\cancel{5}.\cancel{6}\cancel{0} \\ -118.26 \\ \hline 257.34 \end{array}$$

5

Estimate to check that the sum is reasonable.

Round each addend to the nearest hundred.

375.6 rounds to 400.

118.26 rounds to 100.

The difference is about  $400 - 100$ , or 300.

The exact difference, 257.34, rounds to 300.

So the difference is reasonable.

►  $375.6 - 118.26 = 257.34$ .

**TRY**

Subtract.

$$28.61 - 9.8 = d$$



## Problem Solving

### READ

At the tournament, Team A scored 192.586 points. Team B scored 170.399 points. How many more points did Team A score than Team B?

### PLAN

Write an equation to represent the problem.

Let  $p$  = the difference between the two team's points.

$$192.586 - 170.399 = p$$

### SOLVE

Line up the decimal points.

Then subtract.

$$\begin{array}{r} 192.586 \\ -170.399 \\ \hline \end{array}$$

### CHECK

Use addition to check the answer.

Line up the decimal points in the addends.

Does the total equal Team A's points? \_\_\_\_\_

▶ Team A scored \_\_\_\_\_ more points than Team B.

# Practice

Add or subtract. Check your answer.

1. 
$$\begin{array}{r} 4.98 \\ +72.65 \\ \hline \end{array}$$

2. 
$$\begin{array}{r} 425.2 \\ -173.45 \\ \hline \end{array}$$

3. 
$$\begin{array}{r} 57.93 \\ +43.2 \\ \hline \end{array}$$

4. 
$$\begin{array}{r} 7.328 \\ -0.76 \\ \hline \end{array}$$



To subtract in each place, add a zero to 425.2 as a placeholder.

5. 
$$\begin{array}{r} 329.45 \\ +156.28 \\ \hline \end{array}$$

6. 
$$\begin{array}{r} 138.4 \\ -48.732 \\ \hline \end{array}$$

7. 
$$\begin{array}{r} 27.629 \\ +16.83 \\ \hline \end{array}$$

8. 
$$\begin{array}{r} 52.521 \\ -38.89 \\ \hline \end{array}$$

9.  $12.3 + 5.427$

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10.  $5.189 - 2.94$

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11.  $328.25 + 42.78$

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**REMEMBER** Align the decimal point to add or subtract in the same place.

12.  $72.9 + 6.437$

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13.  $513.98 - 85.39$

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14.  $472.6 + 8.352$

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15.  $0.83 + 56.7$

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16.  $8.2 - 0.684$

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17.  $16 - 2.361$

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Find the missing number.

18.  $3.982 - \underline{\hspace{2cm}} = 1.74$

19.  $\underline{\hspace{2cm}} + 739.2 = 953.16$

20.  $62.31 + \underline{\hspace{2cm}} = 100.8$

21.  $\underline{\hspace{2cm}} - 39.04 = 82.752$

22.  $50.06 - \underline{\hspace{2cm}} = 18.123$

23.  $29.8 - \underline{\hspace{2cm}} = 6.082$

**Choose the best answer.**

24. Allie rode her bike 4.3 kilometers from home to the park. She rode for 7.85 kilometers around the park. Then she rode back home along her original route. How many kilometers did Allie ride in all?
- A. 8.28 km                      B. 8.71 km  
C. 12.15 km                     D. 16.45 km
25. Mark's batting average is 0.34. Last year, it was 0.175. By how much has Mark's batting average increased?
- A. 0.141                              B. 0.165  
C. 0.175                              D. 0.515
26. Write a real-world problem that can be solved by adding two decimals. Then solve the problem.
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**Solve.**

27. A diver scores 6.892, 7.935, 6.253, and 8.025 in four dives. What is the diver's total score?
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28. Kanye has to drive 193 miles to visit his grandparents. He drives 85.46 miles and then stops to get gas. How many miles does Kanye have left to drive?
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29. **CONCLUDE** When you compute with decimals, you should always check that your answer is reasonable. Why?
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30. **JUSTIFY** Why do you always line up the decimal points when you add or subtract decimal numbers?
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