

## Lesson #17 – Adding and Subtracting Decimals

You can use a vertical format to add or subtract decimals. Begin by lining up the decimal points. Then add or subtract as with whole numbers. Be sure to include the decimal point in your answer.

- 1) The table below shows the amounts of money (in billions of dollars) that people in the United States spent on dance studios, schools, and halls.

Money Spent on Dancing	
Year	Dollars (billions)
1994	0.906
1995	0.947
1996	1.046
1997	1.08
1998	1.138

- a) How much was spent in 1995 and 1996?

$\$1.993$   
billion

0	.	9	4	7
1	.	0	4	6
1	.	9	9	3

- b) How much more was spent in 1998 than in 1997?

$\$0.058$   
billion

		0	13	
1	.	<del>1</del>	<del>8</del>	8
1	.	0	8	0
0	.	0	5	8

We learned rules for adding and subtracting positive and negative integers. You can apply the same rules to adding and subtracting positive and negative decimals.

Find the sum or difference.

1.  $-12.5 + (-4.55)$

$$\begin{array}{r} 12.50 \\ + 4.55 \\ \hline -17.05 \end{array}$$

2.  $8.93 + 0.367$

$$\begin{array}{r} 8.930 \\ + 0.367 \\ \hline 9.297 \end{array}$$

3.  $7.624 + (-0.05)$

$$\begin{array}{r} 7.624 \\ - 0.050 \\ \hline 7.574 \end{array}$$

4.  $8.91 - 2.745$

$$\begin{array}{r} 8.910 \\ - 2.745 \\ \hline 6.165 \end{array}$$

5.  $-5.3 - 11.49$

$$\begin{array}{r} -5.3 + (-11.49) \\ 11.49 \\ + 5.30 \\ \hline -16.79 \end{array}$$

6.  $-5.376 + (+0.08)$

$$\begin{array}{r} 5.376 + 0.08 \\ 5.376 \\ + 0.080 \\ \hline -5.296 \end{array}$$

7. An item costs \$9.87 plus sales tax of \$0.49. What is the total cost of the item?

$$\begin{array}{r} 9.87 \\ + 0.49 \\ \hline \$10.36 \end{array}$$

8. You run 400 meters in 58.01 seconds. What is the difference of your time and the school record of 55.49 seconds?

$$\begin{array}{r} 58.01 \\ - 55.49 \\ \hline 2.52 \text{ Seconds} \end{array}$$

9) The temperature in Merrick was  $-5.3^{\circ}\text{F}$  on the morning of January 4<sup>th</sup>. The temperature then rose to  $15.8^{\circ}\text{F}$  by the afternoon. What was the overall increase or decrease in temperature?

$$\begin{array}{r}
 -5.3 - 15.8 \\
 -5.3 + (-15.8) \\
 \hline
 10.5^{\circ}\text{F}
 \end{array}$$

10) One week, Gertrude wrote a check for  $\$8.75$ , deposited  $\$4.50$ , and wrote another check for  $\$2.50$ . What was the change to Gertrude's bank account that week?

$$\begin{array}{r}
 -8.75 + 4.50 - 2.50 \\
 \hline
 -4.25
 \end{array}$$

$$\begin{array}{r}
 4.25 \\
 + 2.50 \\
 \hline
 6.75
 \end{array}$$

$$\begin{array}{r}
 -4.25 - 2.50 \\
 -4.25 + (-2.50) \\
 \hline
 -6.75
 \end{array}$$

11) Your bank account shows  $\$-30.65$ . You deposit  $\$15.45$ . What is your new balance?

$$\begin{array}{r}
 -30.65 + 15.45 \\
 \hline
 -15.20
 \end{array}$$

12) On October 6<sup>th</sup>, Apple's stock price was  $\$113.70$  per share. The table below shows the daily increase or decrease of the stock for the next 6 days.

Day	Stock Price
October 7 <sup>th</sup>	+\$0.61
October 8 <sup>th</sup>	+\$0.71
October 10 <sup>th</sup>	+\$0.71
October 11 <sup>th</sup>	+\$2.68
October 12 <sup>th</sup>	-\$0.35
October 13 <sup>th</sup>	-\$0.56

Part A) What is the **total** overall increase or decrease in Apple's stock over those 6 days?

$$\begin{array}{r}
 0.61 \\
 0.71 \\
 0.71 \\
 + 2.68 \\
 \hline
 4.71
 \end{array}$$

$$\begin{array}{r}
 4.91 \\
 - 0.56 \\
 \hline
 4.35 \\
 - 0.56 \\
 \hline
 3.79
 \end{array}$$

$\$3.59$  increase

Part B) What is the new price per share of Apple's stock after those 6 days?

$$\begin{array}{r}
 113.70 \\
 + 3.59 \\
 \hline
 \$117.29
 \end{array}$$

