

# Add and Subtract Decimals

Here's a little “trick” to help you keep track of decimal addition and subtraction:

**Give all of the addends the same amount of decimal digits by “tagging” zeros onto the ends of them.**

For example, in the problem  $0.024 + 0.1 + 0.05$ , if we “tag” two zeros onto 0.1 and one zero to 0.05, then all of the addends will have three decimal digits:

$$0.024 + 0.100 + 0.050$$

Now, you can imagine adding the numbers without the decimal points:  $24 + 100 + 50 = 174$ . The full answer has three decimals, so it is 0.174. The column-addition at the right shows the same principle. →

$0.024 + 0.1$	+	$0.05$
↓		↓
$0.024 + 0.100 + 0.050 = 0.174$		

0.0 2 4
0.1 0 0
+ 0.0 5 0
0.1 7 4

1. Write the decimal that is more or less than the given decimal by the specified amount.

<p><b>a.</b></p> <table style="border-collapse: collapse; margin-left: 20px;"> <tr> <td style="border: 1px solid gray; padding: 2px 5px; text-align: center;">O</td> <td style="border: 1px solid gray; padding: 2px 5px; text-align: center;">t</td> <td style="border: 1px solid gray; padding: 2px 5px; text-align: center;">h</td> <td style="border: 1px solid gray; padding: 2px 5px; text-align: center;">th</td> <td style="border: 1px solid gray; padding: 2px 5px; text-align: center;">t-th</td> </tr> <tr> <td style="border: 1px solid gray; padding: 2px 5px; text-align: center;">0</td> <td style="border: 1px solid gray; padding: 2px 5px; text-align: center;">.</td> <td style="border: 1px solid gray; padding: 2px 5px; text-align: center;">0</td> <td style="border: 1px solid gray; padding: 2px 5px; text-align: center;">0</td> <td style="border: 1px solid gray; padding: 2px 5px; text-align: center;">2</td> </tr> </table> <p>1 tenth more: _____</p> <p>1 thousandth less: _____</p> <p>1 ten-thousandth more: _____</p>	O	t	h	th	t-th	0	.	0	0	2	<p><b>b.</b></p> <table style="border-collapse: collapse; margin-left: 20px;"> <tr> <td style="border: 1px solid gray; padding: 2px 5px; text-align: center;">O</td> <td style="border: 1px solid gray; padding: 2px 5px; text-align: center;">t</td> <td style="border: 1px solid gray; padding: 2px 5px; text-align: center;">h</td> <td style="border: 1px solid gray; padding: 2px 5px; text-align: center;">th</td> <td style="border: 1px solid gray; padding: 2px 5px; text-align: center;">t-th</td> <td style="border: 1px solid gray; padding: 2px 5px; text-align: center;">h-th</td> </tr> <tr> <td style="border: 1px solid gray; padding: 2px 5px; text-align: center;">0</td> <td style="border: 1px solid gray; padding: 2px 5px; text-align: center;">.</td> <td style="border: 1px solid gray; padding: 2px 5px; text-align: center;">8</td> <td style="border: 1px solid gray; padding: 2px 5px; text-align: center;">5</td> <td style="border: 1px solid gray; padding: 2px 5px;"></td> <td style="border: 1px solid gray; padding: 2px 5px;"></td> </tr> </table> <p>2 hundredths less: _____</p> <p>2 ten-thousandths more: _____</p> <p>2 hundred-thousandths more: _____</p>	O	t	h	th	t-th	h-th	0	.	8	5		
O	t	h	th	t-th																			
0	.	0	0	2																			
O	t	h	th	t-th	h-th																		
0	.	8	5																				

2. Add.

**a.**  $0.2 + 0.8$

**d.**  $0.03 + 0.06$

**g.**  $0.09 + 0.007$

**b.**  $0.2 + 0.08$

**e.**  $0.03 + 0.0006$

**h.**  $0.9 + 0.007$

**c.**  $0.2 + 0.0008$

**f.**  $0.03 + 0.00006$

**i.**  $0.00009 + 0.007$

3. Add or subtract mentally.

**a.**  $1 \frac{3}{10} + 0.56$

**b.**  $0.2 + \frac{27}{100}$

**c.**  $3.19 + \frac{5}{10}$

**d.**  $2 \frac{289}{1000} - 0.1$

4. Continue the sequences for six more numbers. Use mental math.

**a.** 0.25, 0.28, 0.31,

**b.** 3.275, 3.28, 3.285,

5. Find the two calculations that are in error, and correct them.

a.  $0.15 + 0.2 = 0.17$

b.  $1.06 + 0.04 = 1.1$

c.  $0.9 - 0.08 = 0.1$

6. Find the value of the expression  $0.5 - y$  when

a. $y = 0.02$	b. $y = 0.002$	c. $y = 0.0002$
---------------	----------------	-----------------

7. Calculate. Remember to line up the decimal points.

a.  $6.907 - 4.80056$

b.  $2 + 9.082 + 0.038284 + 4.5028$

c.  $410 - 25.6 - 4.59384$

8. First change the fractions to decimals, then calculate.

a. $\frac{2}{10} + \frac{35}{1,000}$	b. $\frac{4}{10,000} + \frac{4}{100}$
c. $\frac{7}{10} + \frac{205}{100,000} - \frac{18}{1,000}$	d. $\frac{900}{100} + \frac{9}{10,000} - \frac{1}{2}$

9. Solve the equations.

a. $0.0095 + x = 2.3$	b. $x - 0.39192 = 0.00311$	c. $1 - x = 0.004803$
-----------------------	----------------------------	-----------------------