

Add and Subtract Decimals

Here is a “trick” to help you with decimal addition and subtraction:

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

For example, in the problem $0.024 + 0.1 + 0.05$, if we “tag” two zeros onto 0.1 and one zero onto 0.05, then all of the addends will have three decimal digits. (see the box on the top right) →

Now, you can simply add how many thousandths each number has: $24 + 100 + 50 = 174$. The answer has three decimals, so it is 0.174.

The column-addition on the right shows the same principle. →

$$\begin{array}{r} 0.024 + 0.1 + 0.05 \\ \downarrow \quad \downarrow \quad \downarrow \\ 0.024 + 0.100 + 0.050 = 0.174 \end{array}$$

$$\begin{array}{r} 0.024 \\ 0.100 \\ + 0.050 \\ \hline 0.174 \end{array}$$

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

a.

O	t	h	th	t-th
0	.	0	0	2

1 tenth more: _____

1 thousandth less: _____

1 ten-thousandth more: _____

b.

O	t	h	th	t-th	h-th
0	.	8	5		

2 hundredths less: _____

2 ten-thousandths more: _____

2 hundred-thousandths more: _____

2. Add.

a. $0.2 + 0.8 =$

b. $0.2 + 0.08 =$

c. $0.2 + 0.0008 =$

d. $0.03 + 0.06 =$

e. $0.03 + 0.0006 =$

f. $0.03 + 0.00006 =$

g. $0.09 + 0.007 =$

h. $0.9 + 0.007 =$

i. $0.00009 + 0.007 =$

3. Add or subtract mentally. First, change the fraction into a decimal.

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. $y = 0.2$

b. $y = 0.02$

c. $y = 0.002$

7. Calculate in columns. 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. $x + 1.28029 = 2.0048$