

Adding and Subtracting Hundredths

1. Try to solve these problems without reading below! Write the corresponding fractions below the decimals.

<p>a. $0.05 + 0.04 = \underline{\hspace{2cm}}$</p> $\frac{5}{100} + \frac{\square}{100} =$	<p>b. $0.07 + 0.04 = \underline{\hspace{2cm}}$</p> $\frac{\square}{100} + \frac{\square}{100} =$	<p>c. $0.37 - 0.06 = \underline{\hspace{2cm}}$</p> $\frac{\square}{100} - \frac{\square}{100} =$
<p>d. $0.45 + 0.65 = \underline{\hspace{2cm}}$</p> $\frac{\square}{\square} + \frac{\square}{\square} =$	<p>e. $3.25 - 1.08 = \underline{\hspace{2cm}}$</p> $\square \frac{\square}{\square} - \square \frac{\square}{\square} =$	

Add or subtract decimals thinking of them as fractions. After all, decimals are fractions. Decimals in this lesson are fractions with a denominator of 10 or 100.

<p>Example 1. $0.11 + 0.09 = 0.20$</p> <p style="text-align: center;">11 hundredths + 9 hundredths = 20 hundredths</p>	<p>Example 2. $2.90 - 1.07 = 1.83$</p> <p style="text-align: center;">$\frac{2 \text{ and } 90 \text{ hundredths}}{\text{}} - \frac{1 \text{ and } 7 \text{ hundredths}}{\text{}} = \frac{1 \text{ and } 83 \text{ hundredths}}{\text{}}$</p>
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2. Add and subtract mentally. Think how many *hundredths* there are in each number.

a.	b.	c.	d.
$0.03 + 0.09 = \underline{\hspace{2cm}}$	$0.52 + 0.43 = \underline{\hspace{2cm}}$	$1.03 - 0.03 = \underline{\hspace{2cm}}$	$0.10 - 0.08 = \underline{\hspace{2cm}}$
$2.03 + 2.09 = \underline{\hspace{2cm}}$	$1.55 + 1.25 = \underline{\hspace{2cm}}$	$4.03 - 2.01 = \underline{\hspace{2cm}}$	$20.06 - 1.03 = \underline{\hspace{2cm}}$

3. Continue the patterns.

a. 0.91	b. 0.80	c. 2.90	d. 1.77
$+ 0.02 = \underline{\hspace{2cm}}$	$- 0.05 = \underline{\hspace{2cm}}$	$+ 0.03 = \underline{\hspace{2cm}}$	$+ 0.11 = \underline{\hspace{2cm}}$
$+ 0.02 = \underline{\hspace{2cm}}$	$- 0.05 = \underline{\hspace{2cm}}$	$+ 0.03 = \underline{\hspace{2cm}}$	$+ 0.11 = \underline{\hspace{2cm}}$
$+ 0.02 = \underline{\hspace{2cm}}$	$- 0.05 = \underline{\hspace{2cm}}$	$+ 0.03 = \underline{\hspace{2cm}}$	$+ 0.11 = \underline{\hspace{2cm}}$
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$+ 0.02 = \underline{\hspace{2cm}}$	$- 0.05 = \underline{\hspace{2cm}}$	$+ 0.03 = \underline{\hspace{2cm}}$	$+ 0.11 = \underline{\hspace{2cm}}$

Remember that **100 hundredths makes one whole.**

Example 1. $0.90 + 0.11 = 1.01$
 $\begin{array}{r} 90 \\ \text{hundredths} \end{array} + \begin{array}{r} 11 \\ \text{hundredths} \end{array} = \begin{array}{r} 101 \\ \text{hundredths} \end{array}$

Example 2. $1.02 - 0.07 = 0.95$
 $\begin{array}{r} 102 \\ \text{hundredths} \end{array} - \begin{array}{r} 7 \\ \text{hundredths} \end{array} = \begin{array}{r} 95 \\ \text{hundredths} \end{array}$

4. Add and subtract. Be careful and remember that 100 hundredths makes one whole.

a.	b.	c.	d.
$0.97 + 0.04 = \underline{\hspace{2cm}}$	$2.96 + 0.06 = \underline{\hspace{2cm}}$	$1.03 - 0.04 = \underline{\hspace{2cm}}$	$7.02 - 0.05 = \underline{\hspace{2cm}}$
$0.95 + 0.11 = \underline{\hspace{2cm}}$	$8.91 + 0.11 = \underline{\hspace{2cm}}$	$1.12 - 0.16 = \underline{\hspace{2cm}}$	$4.01 - 0.50 = \underline{\hspace{2cm}}$

<p>Remember? 100 cm makes one meter. Therefore, 1 cm is one-hundredth part of 1 meter. In other words, <u>1 cm = 0.01 m.</u></p>	<p>5 cm = 0.05 m 64 cm = 0.64 m 2 m 12 cm = 2.12 m</p>
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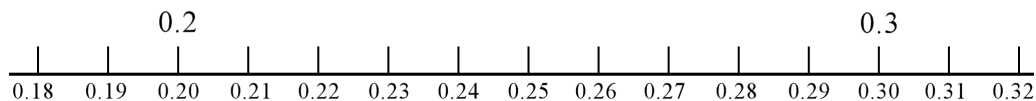
5. Convert between meters and centimeters.

a. $0.03 \text{ m} = \underline{\hspace{2cm}} \text{ cm}$	c. $1.09 \text{ m} = \underline{\hspace{2cm}} \text{ cm}$	e. $\underline{\hspace{2cm}} \text{ m} = 9 \text{ m } 80 \text{ cm}$
b. $0.45 \text{ m} = \underline{\hspace{2cm}} \text{ cm}$	d. $2.82 \text{ m} = \underline{\hspace{2cm}} \text{ cm}$	f. $\underline{\hspace{2cm}} \text{ m} = 306 \text{ cm}$

6. Solve the problems.

<p>a. Sophia had 2.80 meters of material. She cut off from it a piece that was 1 m 15 cm. How long a piece is left now?</p>
<p>b. Natalie is 1 m 31 cm tall, and her little brother Elijah is 0.97 m tall. How much taller is Natalie (in centimeters)?</p>
<p>c. A table is 2.40 m long and 0.90 m wide. Find its perimeter in meters. Give the perimeter also in centimeters.</p>

$$0.2 + 0.05 = \underline{\quad}$$



If you are at 0.2 and go five hundredths (0.05) further, where will you end up?
Some children think that the answer is 0.7 or 0.07. What do you think?

$$\begin{array}{r} \frac{2}{10} + \frac{5}{100} \\ \downarrow \quad \downarrow \\ \frac{20}{100} + \frac{5}{100} = \frac{25}{100} \end{array}$$

Let's write 0.2 and 0.05 as fractions. They have different denominators (10 and 100).

Before adding, we need to convert 2/10 into 20/100. Then we can add easily.

$$\begin{array}{r} 0.2 + 0.05 \\ \downarrow \quad \downarrow \\ 0.20 + 0.05 = 0.25 \end{array}$$

When you add them as decimals (0.2 and 0.05), you can tag a zero on the end of 0.2 (two tenths), so it becomes 0.20 (twenty hundredths).

This is the same process as writing 2/10 as 20/100.

7. Add. Tag a zero on the shorter decimal so it has two decimal digits. You can use the number line.

a. If you are at 0.7 and go four hundredths further, where do you end up?

$$\begin{array}{r} 0.7 + 0.04 \\ \downarrow \quad \downarrow \\ 0.70 + 0.04 = \underline{\quad} \end{array}$$



b. If you are at 0.5 and go 11 hundredths further, where do you end up?

$$\begin{array}{r} 0.5 + 0.11 \\ \downarrow \quad \downarrow \\ \underline{\quad} + 0.11 = \underline{\quad} \end{array}$$



8. Add and subtract. Tag a zero on the shorter decimal number so that both numbers have two decimal digits. Write the problems using fractions also.

<p>a. $0.10 + 0.05 = 0.15$</p> $\frac{10}{100} + \frac{5}{100} = \frac{15}{100}$	<p>b. $0.04 + 0.4 = \underline{\quad}$</p> $\frac{\quad}{100} + \frac{\quad}{100} = \frac{\quad}{100}$	<p>c. $0.6 - 0.09 = \underline{\quad}$</p> $\frac{\quad}{100} - \frac{\quad}{100} = \frac{\quad}{100}$
<p>d. $0.6 + 0.22 = \underline{\quad}$</p> $\frac{\quad}{100} + \frac{\quad}{100} = \frac{\quad}{100}$	<p>e. $0.73 - 0.5 = \underline{\quad}$</p> $\frac{\quad}{100} - \frac{\quad}{100} = \frac{\quad}{100}$	<p>f. $0.9 - 0.13 = \underline{\quad}$</p> $\frac{\quad}{100} - \frac{\quad}{100} =$

9. Add and subtract.

a. $0.11 + 0.5 = \underline{\hspace{2cm}}$	b. $0.24 - 0.2 = \underline{\hspace{2cm}}$	c. $0.3 + 0.39 = \underline{\hspace{2cm}}$
d. $0.22 + 0.7 = \underline{\hspace{2cm}}$	e. $0.6 - 0.41 = \underline{\hspace{2cm}}$	f. $0.97 - 0.7 = \underline{\hspace{2cm}}$

10. Subtract from a whole number.

a. $1 - 0.6 = \underline{\hspace{2cm}}$ $1 - 0.67 = \underline{\hspace{2cm}}$	b. $2 - 0.6 = \underline{\hspace{2cm}}$ $2 - 0.57 = \underline{\hspace{2cm}}$	c. $4 - 0.23 = \underline{\hspace{2cm}}$ $4 - 0.13 = \underline{\hspace{2cm}}$
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11. **a.** Remember? One liter is 1,000 milliliters.

How many milliliters is $\frac{1}{10}$ of a liter?

How many milliliters is $\frac{7}{10}$ of a liter?

And how about 0.4 liters?

b. You pour out 0.3 L of juice out of a full 1-liter pitcher.

How much juice is left, in milliliters?

How much juice is left, in liters?

12. Find the path through the maze! The rule is: start at the top at some number. At each step, advance down, left, or right, EITHER by subtracting 0.06 OR adding 0.2.

1.6	1.21	1.3	1.3	1.18	1.45	1.45
1.7	1.23	1.24	0.7	1.24	1.25	1.51
1.52	1.03	1.18	1.38	1.59	1.31	1.71
1.43	0.94	1.02	1.32	1.92	1.72	1.66
2.2	1.95	1.72	1.52	1.5	1.7	1.9
1.8	1.6	1.66	1.48	1.3	1.64	1.58
1.74	1.4	1.78	1.71	1.28	1.98	1.78

Puzzle Corner

Solve the equations.

a. $0.5 + x = 0.65$ $x = \underline{\hspace{2cm}}$	b. $0.24 + x = 0.3$ $x = \underline{\hspace{2cm}}$	c. $0.5 - x = 0.32$ $x = \underline{\hspace{2cm}}$
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