Adding and Subtracting Decimals

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Place Value

When adding and subtracting decimals, it is important to understand the place value of the numbers.

With 11 + 1.1 the numbers both have 2 digits, however only one digit in each number has the same place value.

$$11 + 1.1 \neq 2.2 \text{ or } 22$$

$$11 + 1.1 = 12.1$$

Using 0's

Sometimes it is helpful to place a 0 where a digit is not given.

$$345.6 \atop + \ \ \ 49.24$$

$$345.60 \atop + \ 49.24$$

It is definitely more useful with subtraction.

$$345.6 \atop - \ \ \ 49.24$$

$$345.60 \atop - \ \ \ 49.24$$

Subtracting

$$
\begin{array}{r}
\overset{5}{3}4\overset{5}{\cancel{5}}.\overset{1}{\cancel{6}}0 \\
-\ \ 49.24 \\
\hline
.\ \ 6
\end{array}
$$

Start by subtracting the smallest value. In this example, this is the hundredths column.
0 – 4 hundredths. This cannot be done therefore we exchange a tenth for 10 hundredths and regroup these. 10 + 0 = 10 hundredths.
10 hundredths – 4 hundredths = 6 hundredths.

$$
\begin{array}{r}
\overset{5}{3}4\overset{5}{\cancel{5}}.\overset{1}{\cancel{6}}0 \\
-\ \ 49.24 \\
\hline
.36
\end{array}
$$

5 tenths - 2 tenths = 3 tenths

$$
\begin{array}{r}
\overset{3}{3}\overset{1}{\cancel{4}}\overset{5}{\cancel{5}}.\overset{1}{\cancel{6}}0 \\
-\ \ 49.24 \\
\hline
6.36
\end{array}
$$

5 ones – 9 ones. This cannot be done so we exchange 1 ten for 10 ones and regroup these into the ones column: 10 ones + 5 ones = 15 ones.
15 ones – 9 ones = 6 ones.

$$
\begin{array}{r}
\overset{2}{3}\overset{3}{\cancel{4}}\overset{5}{\cancel{5}}.\overset{1}{\cancel{6}}0 \\
-\ \ 49.24 \\
\hline
96.36
\end{array}
$$

3 tens - 4 tens. This cannot be done, therefore we exchange 1 hundred for 10 tens and regroup these into the tens column: 10 tens + 3 tens = 13 tens.
13 tens – 4 tens = 9 tens

$$
\begin{array}{r}
\overset{2}{\cancel{3}}\overset{3}{\cancel{4}}\overset{5}{\cancel{5}}.\overset{1}{\cancel{6}}0 \\
-\ \ 49.24 \\
\hline
296.36
\end{array}
$$

2 hundreds - 0 hundreds = 2 hundreds

Remember to place the answers within the correct columns in the answer section.

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Please remember the order of subtraction!

$$345.6\textcolor{teal}{0}$$
$$-\quad 49.24$$
$$\overline{\qquad\qquad.\qquad}$$

0 – 4 =   is not the same as   4 – 0 =

so please don't flip the numbers around…we need to exchange instead.

The decimal point also needs to be placed first (in the same column) then calculate the answer around it.