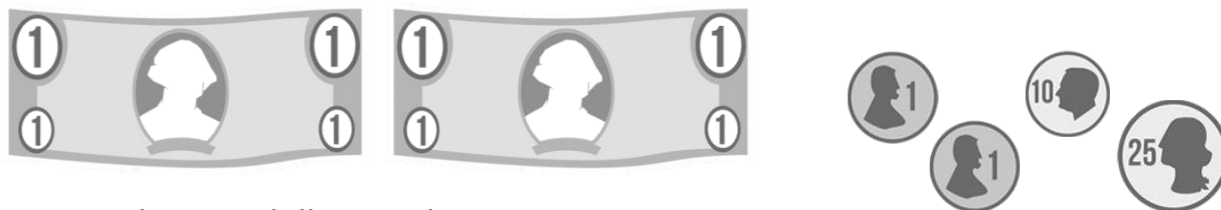We use decimals all the time when talking about money.

Here we have 2 dollars and 37 cents.

Each penny is one cent. The dime is 10 cents. And the quarter is 25 cents.

We write two dollars and 37 cents as $2.37. The decimal point separates the dollars from the cents.

Each cent is 1/100 of a dollar (**$.01**) _and_ each dollar equals 100 cents.

This is why we can write money as a decimal number.

$2.37 means "2 and 37/100 (**.37**) dollars".

This is equivalent to $2 + 37¢ = 200¢ + 37¢ = 237¢

A dime is equal to 10¢ = 10/100 (1/10) of a dollar = $.10

A quarter is equal to 1/4 (one quarter) of a dollar = 25/100 of a dollar = $.25

How much money do we have here?

Write the dollar amount as a decimal number:

How many cents is this equivalent to:
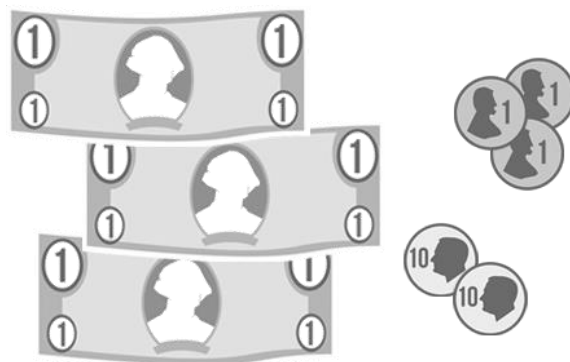
What about adding and subtracting amounts of money?

Since we write money as a decimal number, we add (and subtract) amounts of money the same as we do any other decimal numbers. Let's see how we go about it.

Because decimals are based on the number 10 (just like whole numbers), we can add (and subtract) them exactly the same way as we add (and subtract) whole numbers. But first—*and this is important*—we must line up the digits properly. We do this by carefully lining up the decimal points.

Let's add 3.21 and 4.5.

Just like with any addition example, we're going to *stack* one number on top of the other. But instead of lining our numbers up on the right...we're going to **line up the decimal points**.

Then we add as usual. Finally, we drag down the decimal point—so that the decimal point in our sum lines up with other decimal points.

$$3.21 + 4.5$$

Line up the decimal points...

$$
\begin{array}{r}
3.21 \\
+\ 4.5 \\
\hline
7.71
\end{array}
$$

Add as usual!

and just drag that decimal point straight down!

Notice that we could have tidied things up by putting a zero in the hundredths place (after the digit 5) in the number 4.5, turning it into 4.50.

So, what about adding a whole number and a decimal? That's easy! Just turn the whole number into a decimal number by adding a decimal point and zeros after it. Then line up the decimal points and add.

Let's add $528 + 7.49$.

$$528 + 7.49$$

Line up the decimal points...

$$
\begin{array}{r}
528.00 \\
+\ \ \ \ 7.49 \\
\hline
535.49
\end{array}
$$

Just turn that whole number into a decimal!

What about subtraction?
Same as with addition—
line up the decimal points
and subtract as usual.

$$8.97 - 2.82$$

Line up the
decimal points...

$$\begin{array}{r} 8.97 \\ -\ 2.82 \\ \hline 6.15 \end{array}$$

Subtract as usual!

and just drag that decimal
point straight down!

Sometimes, you'll need to stick a zero in an empty place. For example, let's say you want to subtract 1.26 from 3.8. You'll need to put a zero in the hundredths place (after the 8) in 3.8 (turning it into 3.80) to do the subtraction.

$$3.8 - 1.26$$

$$\begin{array}{r} 3.80 \\ -\ 1.26 \\ \hline \end{array}$$

Stick a zero in
there so you can
do your borrowing
(regrouping)!

$$\begin{array}{r} 7 \\ 3.\cancel{8}10 \\ -\ 1.26 \\ \hline 2.54 \end{array}$$

Your Turn:

$$\begin{array}{r} 104.2 \\ +\ 74.1 \\ \hline \end{array}$$

$$\begin{array}{r} 21.4 \\ +\ 6.82 \\ \hline \end{array}$$

$$\begin{array}{r} 0.04 \\ +\ 9.9 \\ \hline \end{array}$$

1. You buy two toys for your dog. One toy cost $2.50 and the other cost $1.99. How much do you pay for both?

2. You have $3.45 to send on your sister's birthday. If the gift you buy her costs $2.75, how much money will you have left?

3. Your mother gives you a five dollar bill and sends you to the store to buy a dozen eggs. If the eggs cost $1.82, how much change should you get?

4. You are selling chocolate bars for school. Your neighbor spends $7.06 on chocolate and pays for it with a ten dollar bill. How much change do you give her?

5. You are making paper flowers. You spend $.79 on tissue paper and $.67 on glue. How much do you spend altogether?