Name: _____ **Standard Long Division**

Now we are going to learn the standard method for long division.

It's not hard at all, so long as you are very careful to put each digit of the quotient in its proper place. Here's how it works:

Suppose we want to divide 738 by 6. We start by writing 738 ÷ 6 using a bracket:

$$6\overline{)\,7\;3\;8}$$

Now, we are going to divide each digit of the dividend by 6, one at the time—always taking into account the digit's *value*. We will put the partial quotient *directly above* the digit we are dividing—lining up the places.

First, we divide 7 hundred by 6. Ask: if I divide 7 hundreds into 6 groups, how many hundreds will be in a group.

Or, you can ask: what hundred do I multiply by 6 to get a number as close as possible to, but not greater, than 7 hundred.

Either way, the answer is **1** hundred.

$$\begin{array}{r} \mathbf{1} \\ 6\overline{)\,7\;3\;8} \\ \underline{\mathbf{6}} \\ \mathbf{1} \end{array}$$

Put a **1** in the hundreds place—*directly* above the 7. (Be careful to line them up nicely.)

Multiply the 1 hundred by the 6 and put the product, **6**, *directly* below the 7, in the hundred's column.

Draw a line and subtract, 7 – 6 = 1. Put the difference, **1**, directly below the line you have drawn. (Remember—this difference is 1 *hundred*.)

We are going to give this 1 hundred to the tens as 10 tens.

To do this, we bring down the **3** from the tens place and put it next to the 10 tens. This gives us 13 tens.

$$\begin{array}{r} 1\;\mathbf{2} \\ 6\overline{)\,7\;3\;8} \\ \underline{6\downarrow} \\ 1\;\mathbf{3} \\ \mathbf{1}\;\mathbf{2} \\ \underline{\mathbf{1}} \end{array}$$

Now, we will divide the 13 tens by 6. [*Ask: If I divide 13 tens fairly into 6 groups, how many tens will be in a group? Or ask: What ten do I multiply by 6 to get a number as close as possible to, but not greater, than 12 tens?*] The answer is 2 tens.

Put the **2** in the tens place directly above the 3. Multiply 2 tens by 6 and put the product, **12**, below the 13 tens.

Draw a line and subtract. Put the difference, **1**, in the tens place below the 12 tens. (Remember—this difference is 1 ten.)

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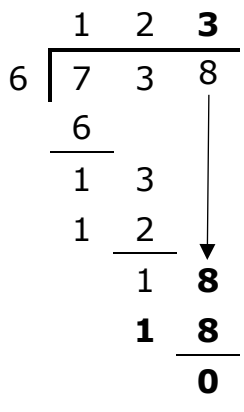

Give the 1 ten to the ones as 10 ones. Do this by bringing down the **8** ones and putting them next to the 1 ten. We now have 18 ones.

Divide the 18 ones by 6. The answer is **3**. Put the **3** in the ones place directly above the 8.

Multiply 3 x 6 = 18. Put the product below the 18 ones. Draw a line and subtract. The difference is zero, so there is no remainder. If the difference in the ones place had not been zero, then there would have been a remainder.

You do not need to sum-up to find the quotient. It is right there directly above the bracket—providing you have been careful to put each digit in its proper place by lining up the hundreds, the tens and the ones.

4 | 9 5 6

3 | 8 3 4

6 | 8 0 4

7 | 5 0 4