

## Long Division (Decimals)

### How To Long Divide with DMSB (DAD, MUM, SISTER, BROTHER & RELATIVES)

<b>STEP ONE</b>	<b>D = Divide</b>
<b>STEP TWO</b>	<b>M = Multiply</b>
<b>STEP THREE</b>	<b>S = Subtract</b>
<b>STEP FOUR</b>	<b>B = Bring down</b>
<b>STEP FIVE</b>	<b>R = Remainders</b>

**REPEAT STEPS**

Long Division is great for dividing big numbers *without a calculator!*



Complete **Steps 1 to 4** normally and divide as usual. Then copy the decimal point directly into the answer (same position).

$$\begin{array}{r}
 11.55 \\
 \underline{23.1} \\
 -2 \phantom{0} \\
 \hline
 03 \phantom{0} \\
 -2 \phantom{0} \\
 \hline
 11 \phantom{0} \\
 -10 \\
 \hline
 1
 \end{array}$$

The diagram shows the long division of 11.55 by 2. The divisor 2 is circled in blue. The dividend 11.55 is written above the line. The quotient 5 is written above the 5 in the dividend. The first subtraction step shows 23.1 minus 20, leaving a remainder of 3.1. The second subtraction step shows 3.1 minus 2, leaving a remainder of 1.1. The third subtraction step shows 1.1 minus 10, leaving a remainder of 1. A blue arrow points to the decimal point in the dividend, which is aligned with the decimal point in the quotient.

### STEP FIVE

When dividing numbers with decimals, remainders (left-overs) are "tagged" to the end of the quotient as a decimal.

A remainder of  $\frac{1}{2}$  or 0.5 is written by adding another 5 at the end of the answer.

### OTHER EXAMPLES:

An answer of 1.5 with the remainder  $\frac{1}{2}$  or 0.5 is written as: **1.55**

An answer of 2.72 with the remainder  $\frac{1}{4}$  or 0.25 is written as: **2.7225**



**Instructions:** Use long division to answer the questions below.

1

$$5 \overline{) 5981.5}$$

2

$$4 \overline{) 8773.2}$$

3

$$6 \overline{) 1074.6}$$

4

$$5 \overline{) 849.25}$$



5

$$9 \overline{) 3981.6}$$

6

$$7 \overline{) 341.25}$$

7

$$7 \overline{) 838.25}$$

8

$$8 \overline{) 4595.2}$$



9

$$6 \overline{) 8593.2}$$

10

$$4 \overline{) 73.352}$$

11

$$5 \overline{) 2.9915}$$

12

$$4 \overline{) 63.228}$$

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**Instructions:** Use long division to answer the questions below.

1

$$2 \overline{) 65.422}$$

2

$$7 \overline{) 345.24}$$

3

$$9 \overline{) 1105.2}$$

4

$$8 \overline{) 769.92}$$



$$5 \overline{) 13.095}$$

5

$$9 \overline{) 52.488}$$

6

$$7 \overline{) 27.489}$$

7

$$4 \overline{) 69.932}$$

8



9

$$7 \overline{) 4555.6}$$

10

$$5 \overline{) 992.25}$$

11

$$6 \overline{) 3458.4}$$

12

$$9 \overline{) 756.99}$$