

LONG DIVISION



LONG DIVISION

Long division is as simple as memorizing the people in this family.



Dad



Mom



Sister



Brother



Rover

LONG DIVISION

Each person represents a step in the long division process.



Dad

1. Divide



Sister

3. Subtract



Brother

4. Bring down



Mom

2. Multiply



Rover

**5. Repeat or
Remainder**

STEP 1 IN LONG DIVISION



1. Divide

Dad

Divide 2 into first number in the dividend.

- Think how many 2's will fit into 9.
- Write that number directly above the number you divided into.

$$\begin{array}{r} 4 \\ \hline 2 \overline{) 947} \end{array}$$

How many 2's will go into 9?



STEP 2 IN LONG DIVISION



2. Multiply

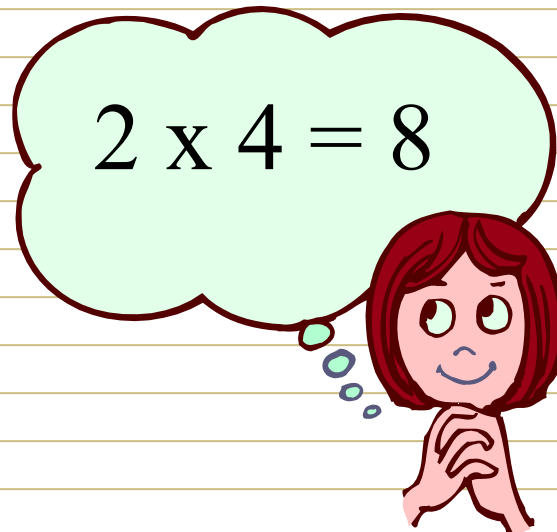
Mom

Multiply the divisor times the first number in the quotient.

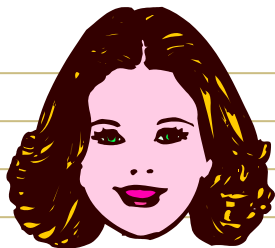
- Write your answer directly under the 9 or the number you just divided into.

$$\begin{array}{r} 4 \\ 2 \overline{) 947} \\ \underline{8} \\ \end{array}$$

$$2 \times 4 = 8$$



STEP 3 IN LONG DIVISION



3. Subtract

Sister

Draw a line under the 8.

- Write a subtraction sign next to the 8.
- Subtract 8 from 9.
- Write your answer directly below the 8.
-

$$\begin{array}{r} \underline{4} \\ 2 \overline{) 947} \\ \underline{8} \\ 1 \end{array}$$

STEP 4 IN LONG DIVISION



4. Bring down

Brother

Go to the next number in the dividend to the right of the 9.

The diagram shows a long division problem: $2 \overline{) 947}$. A horizontal line is drawn under the 9, and another horizontal line is drawn under the 8. The quotient '4' is written above the 9. A red arrow points from the 4 to the right, and another red arrow points from the 4 down to the 4 in the dividend. Below the 4, the number '14' is written, with the '4' in red.

- Write an arrow under the 4.
- Bring the 4 down next to the 1.
-

STEP 5 IN LONG DIVISION



Rover

5. Repeat or Remainder

This is where you decide whether you repeat the 5 steps of division.

- If your divisor can divide into your new number, 14, or if you have numbers in the dividend that have not been brought down, you repeat the 5 steps of division.

$$\begin{array}{r} 4 \\ \hline 2 \overline{) 947} \\ \underline{8} \\ 14 \end{array}$$

14

STEP 1 IN LONG DIVISION



1. Divide

Dad

Divide 2 into your new number, 14.

- Place your answer directly above the 4 in your quotient.

$$\begin{array}{r} 47 \\ \hline 2 \overline{) 947} \\ \underline{8} \\ 14 \end{array}$$

The diagram shows a long division problem: 2 into 947. The quotient 47 is written above the dividend. A red lightning bolt points to the 4 in the quotient, and a red arrow points to the 4 in the dividend. A black arrow points down from the 4 in the dividend to the 4 in the quotient.

STEP 2 IN LONG DIVISION



2. Multiply

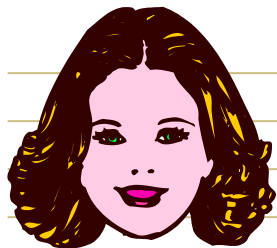
Mom
Multiply your divisor, 2, with
your new number in the
quotient, 7.

- Place your answer
directly under the 14.
-

$$\begin{array}{r} \cancel{4} \\ 2 \overline{) 947} \\ \underline{8} \\ 14 \\ \underline{14} \\ 0 \end{array}$$

The diagram shows a long division problem: 2 divides 947. A red arrow points from the 4 in the quotient to the 7 in the dividend. A red arrow points from the 7 in the dividend down to the 7 in the quotient. The 4 in the quotient and the 7 in the dividend are crossed out with red lines. The 14 in the quotient and the 14 in the dividend are written in red.

STEP 3 IN LONG DIVISION



3. Subtract

Sister

Draw a line under the bottom 14.

- Draw a subtraction sign.
- Subtract & place answer under the line.
-

$$\begin{array}{r} 47 \\ \hline 2 \overline{) 947} \\ \underline{8} \\ 14 \\ \underline{14} \\ 0 \end{array}$$

STEP 4 IN LONG DIVISION



4. Bring down

Brother

- Put an arrow under the next number, 7,
- in the dividend.
- Bring the 7 down next to the 0.

The diagram shows a long division problem: $2 \overline{) 947}$. The quotient 47 is written above the dividend. The first step shows $2 \times 4 = 8$ written below the 9, with a horizontal line under the 8. The second step shows $2 \times 7 = 14$ written below the 47, with a horizontal line under the 14. A red arrow points from the 7 in the dividend down to the 7 in the 14. Below the 14, the number 0 is written, and another red arrow points from the 7 in the dividend down to the 7 in the 0. The final result is 47 with a red 7 written below it.

STEP 5 IN LONG DIVISION



Rover

5. Repeat or Remainder

If the 2 will divide into your new number, 7, then repeat the steps of division.

$$\begin{array}{r} 47 \\ \hline 2 \overline{) 947} \\ \underline{8} \\ 14 \\ \underline{14} \\ 0 \\ 7 \end{array}$$

The diagram shows the long division of 947 by 2. The quotient is 47. The remainder 7 is shown in red. Arrows indicate the process of bringing down the next digit to form a new number to be divided.

STEP 1 IN LONG DIVISION



1. Divide

Dad

Divide your divisor, 2, into your new number, 7.

- Place your answer in the quotient next to the 7.

$$\begin{array}{r} 473 \\ \hline 2 \overline{) 947} \\ \underline{8} \\ 14 \\ \underline{14} \\ 0 \end{array}$$

STEP 2 IN LONG DIVISION



Mom

2. Multiply

Multiply your divisor, 2, by your new number in the quotient, 3.

- Place your answer under the number you brought down, 7.

$$\begin{array}{r} 473 \\ \hline 2 \overline{) 947} \\ \underline{8} \\ 14 \\ \underline{14} \\ 07 \end{array}$$

STEP 3 IN LONG DIVISION



3. Subtract

Sister

Draw a line under the number 6.

- Place your subtraction sign.
- Subtract & put your answer directly under the 6.

$$\begin{array}{r} 473 \\ \hline 2 \overline{) 947} \\ \underline{8} \\ 14 \\ \underline{14} \\ 0 \\ \underline{0} \\ 0 \\ \underline{0} \\ 0 \end{array}$$

The diagram shows the long division process for 947 divided by 2. The quotient 473 is written above the dividend. A box highlights the subtraction step: 2 is multiplied by 7 to get 14, which is subtracted from 14 (the remainder from the previous step). The result is 0. Arrows indicate the alignment of the numbers. The final result 0 is written in red below the 6.

STEP 4 IN LONG DIVISION



**4. Bring
down**

Brother

Look at your dividend to see if there are any more numbers to bring down.

- If not, move to step 5.

•

$$\begin{array}{r} 473 \\ \hline 2 \overline{) 947} \\ \underline{8} \\ 14 \\ \underline{14} \\ 0 \\ 7 \\ \underline{ 6} \\ 1 \end{array}$$

STEP 5 IN LONG DIVISION



Rover

5. Repeat or
Remainder

$$\begin{array}{r} 473 \text{ R1} \\ \hline 2 \overline{) 947} \\ \underline{8} \\ 14 \\ \underline{14} \\ 0 \\ 7 \\ \underline{6} \\ 1 \end{array}$$

Since there are no more numbers to bring down & 2 will not divide into 1, you do not repeat the steps of division.

- The number left over, 1, becomes the remainder.

You did it!



You're awesome!



$$\begin{array}{r}
 473 \text{ R1} \\
 \hline
 2 \overline{) 947} \\
 \underline{8} \\
 14 \\
 \underline{14} \\
 0 \\
 7 \\
 \underline{ 6} \\
 1
 \end{array}$$

You're so smart!



Cool Dude!



Wolf!



CREDITS

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