

Long Division

by Monica Yuskaitis



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



Dad

1. Divide

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

- 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.

How many 2's will go into 9?



Step 2 in Long Division



Mom

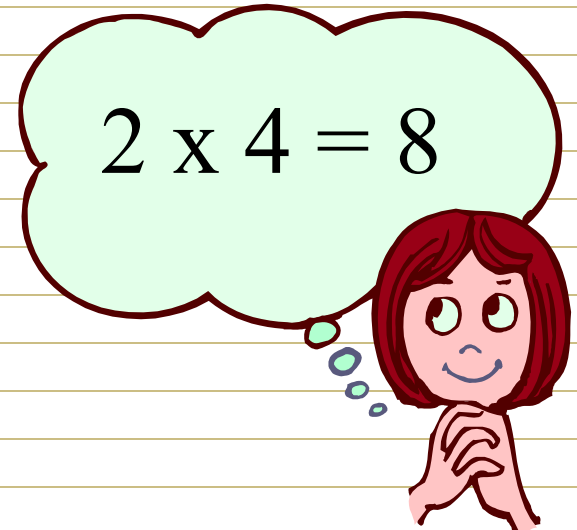
2. Multiply

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

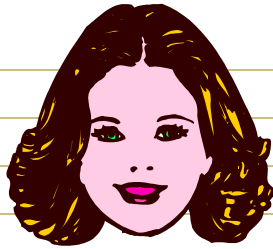
The diagram shows a long division problem: 2 divided into 947. A red arrow points from the 2 to the 4 in the quotient. The number 4 is written above the 4 in the dividend, and the number 8 is written below the 9 in the dividend.

- Multiply the divisor times the first number in the quotient.
- Write your answer directly under the 9 or the number you just divided into.

$$2 \times 4 = 8$$



Step 3 in Long Division



Sister

3. Subtract

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

- 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.

Step 4 in Long Division



4. Bring down

Brother

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

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

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

Step 1 in Long Division



Dad

1. Divide

- 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 divided into 947. The quotient 47 is written above the line, with the 7 in red. A red arrow points from the 2 in the divisor to the 14 in the remainder. A downward arrow points from the 7 in the dividend to the 7 in the remainder.

Step 2 in Long Division



2. Multiply

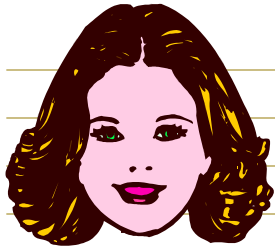
Mom

- Multiply your divisor, 2, with your new number in the quotient, 7.
- Place your answer directly under the 14.

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

The diagram shows the long division process. The divisor is 2, and the dividend is 947. The quotient is 47. A red arrow points from the 4 in the quotient to the 8 in the product (2 * 4 = 8). A red arrow points from the 7 in the quotient to the 14 in the product (2 * 7 = 14). A red arrow points from the 7 in the quotient to the 14 in the product (2 * 7 = 14). A red arrow points from the 7 in the quotient to the 14 in the product (2 * 7 = 14).

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.

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

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.

$$\begin{array}{r} 47 \\ \hline 2 \overline{) 947} \\ \underline{-8} \\ 14 \\ \underline{-14} \\ 07 \end{array}$$

The diagram shows the long division process for 947 divided by 2. The quotient 47 is written above the dividend. The first step shows 2 times 4 equals 8, which is subtracted from 94 to get 14. The second step shows 2 times 7 equals 14, which is subtracted from 14 to get 0. The final remainder is 7. A red arrow points from the 7 in the dividend down to the 7 in the remainder.

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.

$$\begin{array}{r} 47 \\ \hline 2 \overline{) 947} \\ \underline{-8} \\ 14 \\ \underline{-14} \\ 07 \end{array}$$

Step 1 in Long Division



Dad

1. Divide

- Divide your divisor, 2, into your new number, 7.
- Place your answer in the quotient next to the 7.

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

The diagram shows the long division process. The divisor 2 is on the left. The dividend 947 is on the right. The quotient 473 is written above the dividend. A red arrow points from the divisor 2 to the 7 in the dividend, indicating the current step in the division process. The 7 in the dividend and the 7 in the quotient are highlighted in red.

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.

$$\begin{array}{r} 473 \\ \hline 2 \overline{) 947} \\ \underline{-8} \\ 14 \\ \underline{-14} \\ 07 \\ \underline{6} \\ 1 \end{array}$$

The diagram shows the long division process for 947 divided by 2. The divisor is 2, and the dividend is 947. The quotient is 473. A red arrow points from the 2 to the 7 in the dividend. A red arrow points from the 3 in the quotient to the 7 in the dividend. A red arrow points from the 6 in the remainder to the 7 in the dividend. The remainder is 1.

Step 3 in Long Division



Sister

3. Subtract

$$\begin{array}{r} 473 \\ \hline 2 \overline{) 947} \\ \underline{-8} \\ 14 \\ \underline{-14} \\ 07 \\ \underline{-6} \\ 1 \end{array}$$

- Draw a line under the number 6.
- Place your subtraction sign.
- Subtract & put your answer directly under 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.

$$\begin{array}{r} 473 \\ \hline 2 \overline{) 947} \\ \underline{-8} \\ 14 \\ \underline{-14} \\ 07 \\ \underline{-6} \\ 1 \end{array}$$

Step 5 in Long Division



Rover

**5. Repeat or
Remainder**

$$\begin{array}{r} 473 \text{ R1} \\ \hline 2 \overline{) 947} \\ \underline{-8} \\ 14 \\ \underline{-14} \\ 07 \\ \underline{-6} \\ 1 \end{array}$$

- 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 so smart!



You're awesome!



Cool Dude!



Wolf!



$$\begin{array}{r} 473 \text{ R1} \\ \hline 2 \overline{) 947} \\ \underline{-8} \\ 14 \\ \underline{-14} \\ 07 \\ \underline{-6} \\ 1 \end{array}$$

Credits

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