

# 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.



**1. Divide**

**Dad**



**Sister**

**3. Subtract**



**Brother**

**4. Bring down**



**2. Multiply**

**Mom**



**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



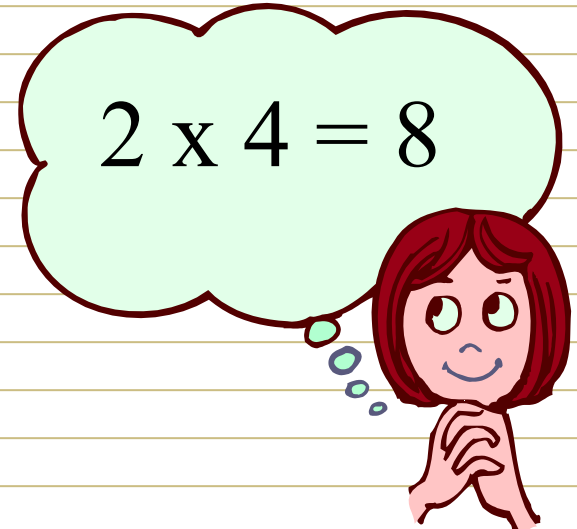
## 2. Multiply

**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.

$$\begin{array}{r} 4 \\ \hline 2 \overline{) 947} \\ \underline{8} \phantom{00} \\ \phantom{8} 4 \phantom{00} \\ \phantom{8} \underline{8} \phantom{00} \\ \phantom{8} \phantom{8} 7 \phantom{00} \end{array}$$

$$2 \times 4 = 8$$



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

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

# Step 5 in Long Division



Rover

## 5. Repeat or Remainder

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

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

- 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.



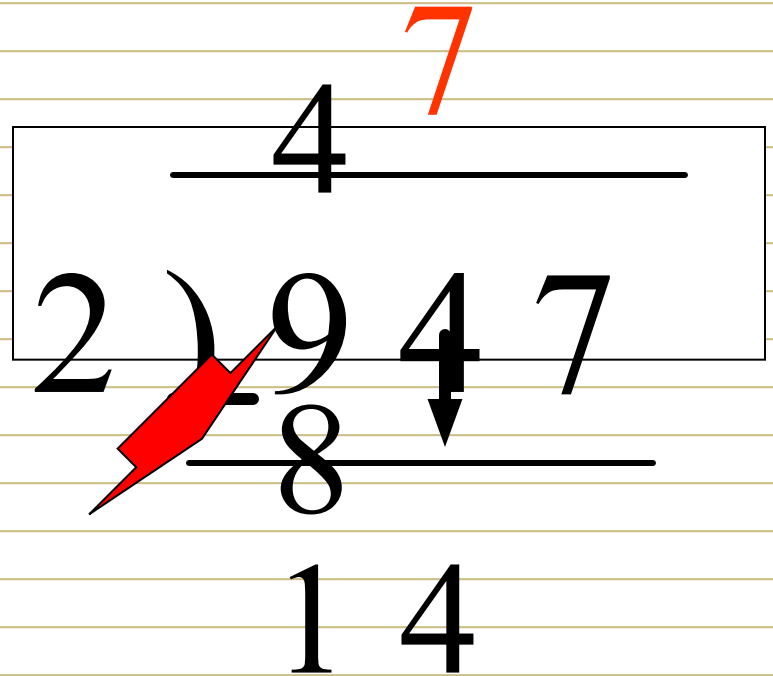
# Step 1 in Long Division



## 1. Divide

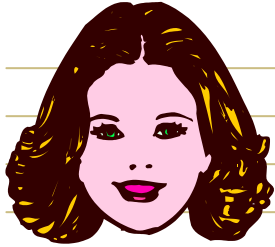
**Dad**

- Divide 2 into your new number, 14.
- Place your answer directly above the 4 in your quotient.
- 


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



# 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.
- 

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

# 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. A horizontal line is drawn under the  $8$  in the product  $8$  (from  $2 \times 4$ ). Below this line, the number  $14$  is written, representing the remainder from the previous step. Another horizontal line is drawn under the  $14$ . The number  $7$  is written below the  $14$ , and a red arrow points down from the  $7$  in the dividend to this  $7$ . The number  $0$  is written below the  $14$ , and another red arrow points down from the  $7$  in the dividend to this  $0$ . The final result  $7$  is written in red below the  $0$ .

# 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.

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

The diagram shows the long division of 947 by 2. The quotient is 47. The remainder is 7, which is written in red below the 0. Arrows indicate the steps: a downward arrow from the 7 in the quotient to the 7 in the dividend, and another downward arrow from the 7 in the dividend to the 7 in the remainder.

# 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.

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

The diagram illustrates the first step of long division. A red arrow points from the divisor 2 to the 7 in the dividend 947. A red 7 is written below the 0 in the remainder, indicating the next step in the process.

# Step 2 in Long Division



## 2. Multiply

**Mom**

- Multiply your divisor, 2, by your new number in the quotient, 3.
- Place your answer under the number you brought down, 7.

$$\begin{array}{r} \cancel{473} \\ 2 \overline{) 947} \\ \underline{8} \phantom{0} \\ \phantom{0} 14 \phantom{0} \\ \underline{\phantom{0} 14} \phantom{0} \\ \phantom{00} 0 \phantom{0} \\ \phantom{00} 7 \end{array}$$

The diagram illustrates the second step of long division. A red arrow points from the quotient digit '3' to the number '7' in the dividend. A black arrow points from the '7' down to the '14' in the next column. A red '6' is written below the '7', indicating the next step in the process.

# 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.

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



# 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.
- 

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



You did it!



You're awesome!



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

You're so smart!



Cool Dude!



Wolf!



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