

# 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



Dad

## 1. Divide

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

- 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

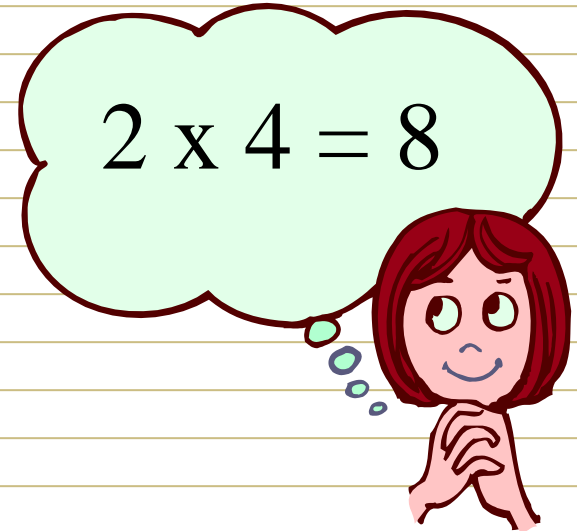
## 2. Multiply

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

The diagram shows a long division problem: 2 divided into 947. A red arrow points from the divisor 2 to the quotient digit 4. The number 8 is written below the 9, indicating the product of 2 and 4.

- 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

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

- 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.

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



# 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.

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

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 4 in the dividend to the 4 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.

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

The diagram shows a long division problem: 2 divided into 947. The quotient 47 is written above the line. A red arrow points from the 4 in the quotient to the 8 in the product (2 times 4). A red arrow points from the 7 in the quotient to the 14 in the product (2 times 7). A red arrow points from the 7 in the quotient down to the 14 in the product. The product 14 is written in red below the 14 in the dividend.

# Step 3 in Long Division



Sister

## 3. Subtract

- Draw a line under the bottom 14.
- Draw a subtraction sign.
- Subtract & place answer under the line.

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

# 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.

$$\begin{array}{r} 47 \\ 2 \overline{) 947} \\ \underline{-8} \phantom{0} \\ 14 \\ \underline{-14} \\ 07 \end{array}$$

The diagram shows a long division problem: 2 divided into 947. The quotient is 47. The first step shows 2 times 4 equals 8, which is subtracted from 9, leaving 1. The next step shows 2 times 7 equals 14, which is subtracted from 14, leaving 0. The final step shows the 7 from the dividend being brought down next to the 0, resulting in 07. 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.

$$\begin{array}{r} 47 \\ 2 \overline{) 947} \\ \underline{-8} \phantom{0} \phantom{0} \\ 14 \phantom{0} \\ \underline{-14} \phantom{0} \\ 07 \end{array}$$

# 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.

$$\begin{array}{r} 473 \\ 2 \overline{) 947} \\ \underline{-8} \phantom{0} \\ 14 \phantom{0} \\ \underline{-14} \\ 07 \end{array}$$

The diagram shows the long division process. The divisor is 2, and the dividend is 947. The quotient is 473. A red arrow points from the divisor 2 to the 7 in the dividend, indicating the division step. The 7 in the quotient is also red, indicating it is the result of dividing 2 into 7.

# 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.

$$\begin{array}{r} 473 \\ 2 \overline{) 947} \\ \underline{-8} \phantom{0} \\ 14 \phantom{0} \\ \underline{-14} \phantom{0} \\ 07 \\ \phantom{0} \color{red}{6} \end{array}$$

# Step 3 in Long Division



Sister

## 3. Subtract

$$\begin{array}{r} 473 \\ \hline 2 \overline{) 947} \\ \underline{-8} \phantom{0} \\ 14 \phantom{0} \\ \underline{-14} \phantom{0} \\ 07 \\ \underline{-6} \\ 1 \end{array}$$

- 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.

$$\begin{array}{r} 473 \\ \hline 2 \overline{) 947} \\ \underline{-8} \phantom{0} \\ 14 \phantom{0} \\ \underline{-14} \phantom{0} \\ 07 \\ \underline{-6} \\ 1 \end{array}$$

# Step 5 in Long Division



Rover

## 5. Repeat or Remainder

- 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.

$$\begin{array}{r} 473 \text{ R1} \\ \hline 2 \overline{) 947} \\ \underline{-8} \phantom{0} \\ 14 \phantom{0} \\ \underline{-14} \phantom{0} \\ 07 \\ \underline{-6} \\ 1 \end{array}$$

You did it!



You're so smart!



You're awesome!



Cool Dude!



Woof!



$$\begin{array}{r} 473 \text{ R1} \\ \hline 2 \overline{) 947} \\ \underline{-8} \phantom{0} \\ 14 \phantom{0} \\ \underline{-14} \\ 07 \\ \underline{-6} \\ 1 \end{array}$$