

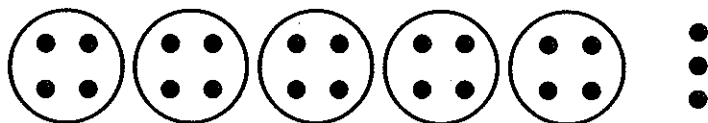
Divide with Remainders

What is $23 \div 5$?

The model below shows one way to think about this division problem.

Think: If you divide 23 into 5 equal groups, how many are in each group?

$$23 \div 5 = \square$$



There are 5 groups of 4, with 3 left over.

$$23 \div 5 = 4 \text{ r}3$$

$$\begin{array}{r} 4 \text{ r}3 \\ 5 \overline{)23} \\ \underline{-20} \\ 3 \end{array}$$

The **remainder** is the amount left over when a number cannot be divided evenly. You can multiply and subtract to find the remainder.

Complete 1–5 to find the remainder.

$$\begin{array}{r} 6 \text{ r} \square \\ 1. \ 5 \overline{)32} \\ \underline{-30} \\ \square \end{array}$$

$$\begin{array}{r} 4 \text{ r} \square \\ 2. \ 7 \overline{)31} \\ \underline{-28} \\ \square \end{array}$$

$$\begin{array}{r} 9 \text{ r} \square \\ 3. \ 4 \overline{)39} \\ \underline{} \\ \square \end{array}$$

$$\begin{array}{r} 6 \text{ r} \square \\ 4. \ 3 \overline{)19} \\ \underline{} \\ \square \end{array}$$

$$\begin{array}{r} 6 \text{ r} \square \\ 5. \ 9 \overline{)62} \\ \underline{} \\ \square \end{array}$$

Divide.

$$6. \ 7 \overline{)43}$$

$$7. \ 5 \overline{)19}$$

$$8. \ 3 \overline{)22}$$

$$9. \ 2 \overline{)17}$$

Place the First Digit

When you begin a division problem, you must decide where to place the first digit of the quotient.

Example A

	tens	ones	
3	7	1	
-	6	↓	
-	1	1	
Divide the tens. Multiply. $3 \times 2 = 6$ Subtract. $7 - 6 = 1$ Compare. $1 < 3$ Bring down? Yes. Bring down 1 to make 11.			
3	2	3	r2
-	6	↓	
-	1	1	
-		9	
-		2	
Divide the ones. Multiply. $3 \times 3 = 9$ Subtract. $11 - 9 = 2$ Compare. $2 < 3$ Bring down? Nothing is left. If there is a remainder, record it.			

Example B

	hundreds	tens	ones	
4	3	9	2	
-	3	6	↓	
-		3	2	
-		3	2	
-			0	
Divide the tens. Multiply. Subtract. Compare. Bring down. Divide the ones. Multiply. Subtract. Compare. Nothing is left.				
	9	8		
4	3	9	2	
-	3	6	↓	
-		3	2	
-		3	2	
-			0	

Write an x where the first digit in the quotient should be placed.

1.
$$\begin{array}{r} 5 \overline{) 34} \\ - 30 \\ \hline 4 \end{array}$$

2.
$$\begin{array}{r} 3 \overline{) 74} \\ - 6 \downarrow \\ \hline 14 \end{array}$$

3.
$$\begin{array}{r} 2 \overline{) 195} \\ - 18 \downarrow \\ \hline 15 \end{array}$$

4.
$$\begin{array}{r} 4 \overline{) 539} \\ - 4 \downarrow \\ \hline 13 \end{array}$$

5.
$$\begin{array}{r} 5 \overline{) 83} \\ - 5 \downarrow \\ \hline 33 \end{array}$$

Divide.

6.
$$\begin{array}{r} 3 \overline{) 29} \end{array}$$

7.
$$\begin{array}{r} 2 \overline{) 47} \end{array}$$

8.
$$\begin{array}{r} 7 \overline{) 195} \end{array}$$

9.
$$\begin{array}{r} 5 \overline{) 750} \end{array}$$