

No Calculator

Original Problem	$\begin{array}{r} 3 \overline{)673} \end{array}$
<b>Divide:</b> How many times does 3 go into 6?	$\begin{array}{r} 2 \\ 3 \overline{)673} \end{array}$
<b>Multiply:</b> 2 times 3, write it below the 6.	$\begin{array}{r} *2 \\ 3 \overline{)673} \\ 6 \end{array}$
<b>Subtract:</b> subtract 6 from 6, write it below.	$\begin{array}{r} 2 \\ 3 \overline{)673} \\ -6 \\ 0 \end{array}$
<b>Bring Down:</b> bring down the next number (7).	$\begin{array}{r} 2 \\ 3 \overline{)673} \\ -6 \\ 07 \end{array}$
<b>Divide:</b> How many times does 3 go into 7?	$\begin{array}{r} 22 \\ 3 \overline{)673} \\ -6 \\ 07 \end{array}$
<b>Multiply:</b> 2 times 3, write it below the 7.	$\begin{array}{r} *22 \\ 3 \overline{)673} \\ -6 \\ 07 \\ 6 \end{array}$
<b>Subtract:</b> subtract 6 from 7, write it below.	$\begin{array}{r} 22 \\ 3 \overline{)673} \\ -6 \\ 07 \\ -6 \\ 1 \end{array}$
<b>Bring Down:</b> bring down the next number (3).	$\begin{array}{r} 22 \\ 3 \overline{)673} \\ -6 \\ 07 \\ -6 \\ 13 \end{array}$
<b>Divide:</b> How many times does 3 go into 13?	$\begin{array}{r} *224 + \frac{1}{3} \\ 3 \overline{)673} \\ -6 \\ 07 \\ -6 \\ 13 \\ -12 \\ 1 \end{array}$
<b>Multiply:</b> 4 times 3, write it below the 13.	
<b>Subtract:</b> subtract 12 from 13, write it below.	
<b>Bring Down:</b> Nothing to bring down. The “left-over” number at the bottom is a remainder.	
Final Answer	$673 \div 3 = 224 + \frac{1}{3}$

Divide:

1. 
$$3 \overline{)1227}$$
                      2. 
$$12 \overline{)76345}$$

3. 
$$20 \overline{)400560}$$
                      4. 
$$8 \overline{)91374}$$

Factor Completely:

5. 
$$x^2 + x$$
6. 
$$9 - 4x^2$$
7. 
$$3x^3 - 27x$$
8. 
$$25x^2 - 36$$
9. 
$$x^2 - y^2$$
10. 
$$2x^3 - 4x^2$$