

$$\begin{array}{r} 13 \\ 6 \overline{)801298} \\ \underline{-6} \\ 20 \\ \underline{-18} \\ 2 \end{array}$$

$$\begin{array}{r} 133 \\ 6 \overline{)801298} \\ \underline{-6} \\ 20 \\ \underline{-18} \\ 21 \\ \underline{-18} \\ 3 \end{array}$$

$$\begin{array}{r} 1335 \\ 6 \overline{)801298} \\ \underline{-6} \\ 20 \\ \underline{-18} \\ 21 \\ \underline{-18} \\ 32 \\ \underline{-30} \\ 29 \end{array}$$

$$\begin{array}{r} 133549 \\ 6 \overline{)801298} \\ \underline{-6} \\ 20 \\ \underline{-18} \\ 21 \\ \underline{-18} \\ 32 \\ \underline{-30} \\ 29 \\ \underline{-24} \\ 58 \\ \underline{-54} \\ 4 \end{array}$$

Long division works the same way when there are several digits in the dividend (the big number we divide into). Study the example carefully.

The answer we get is $801,298 \div 6 = 133,549 \text{ R}4$.

3. Divide using long division.

a.

7	4	2	3	3	6				

b.

6	2	0	9	.	7	0			

c.

5	5	4	9	2	0	7			

To check a division result that has a remainder, multiply the result by the divisor, and then *add* the remainder. You should get the original dividend.

In this case, we multiply and add: $6 \times 133,549 + 4 = 801,298$, so it checks.

Remember that the remainder is always less than the divisor; if it isn't, you can continue the division!

4. Check each division by multiplying and adding. If the division is incorrect, correct it.

a. $437 \div 6 = 72 \text{ R}5$

_____ \times _____ + _____ =

b. $2,045 \div 3 = 681 \text{ R}1$

_____ \times _____ + _____ =

5. A bakery bagged 177 buns into bags of eight, getting 21 bags, and nine buns left over. The division was: $177 \div 8 = 21 \text{ R}9$. Jessica *immediately* spotted this was wrong (without calculating anything). How did she do that?

6. A large school has 542 sixth graders. How would you divide them into classes as evenly as possible, with about 25 students per class?

7. Divide, using two-digit divisors. You can build a multiplication table for the divisor to help you. Lastly, check your result.

$2 \times 45 = 90$	<p>a. $45 \overline{) 4005}$</p>	$\begin{array}{r} \times 45 \\ \hline \end{array}$
$2 \times 75 = 150$	<p>b. $75 \overline{) 19875}$</p>	$\begin{array}{r} \times 75 \\ \hline \end{array}$