

Lesson 30: Dividing Numbers by Two Digits

Purpose of lesson: You will learn how to divide larger numbers by two-digit divisors.

There are four (4) basic steps to long division. 1) **Divide**
2) **Multiply**
3) **Subtract**
4) **Bring Down**

Let's look at a few examples.

$$21 \overline{)131}$$

1. **Decide** where to put the first digit. 13 cannot be divided by 21, but 131 can, so we know that we will have a one digit answer.

We think: (**Divide** $13 \div 2 = 6$,) so, Place the 6 over the 1.

$$\begin{array}{r} 6 \\ 21 \overline{)131} \\ 126 \end{array}$$

2. **Multiply** $21 \times 6 = 126$

$$\begin{array}{r} 6 \\ 21 \overline{)131} \\ - 126 \\ \hline 5 \end{array}$$

3. **Subtract** $131 - 126 = 5$

$$\begin{array}{r} 6 \\ 21 \overline{)131} \text{ R}5 \end{array}$$

4. There is nothing to **Bring down**, so the **remainder** is 5

Let's try some of our own!

Take Lesson 30 Quiz 1

Sometimes your first estimate doesn't work and you need to try again.

$$\begin{array}{r} 23 \overline{)161} \end{array}$$

$$\begin{array}{r} 8 \\ 23 \overline{)161} \end{array}$$

$$\begin{array}{r} 8 \\ 23 \overline{)161} \\ -184 \end{array}$$

$$\begin{array}{r} 7 \\ 23 \overline{)161} \\ -161 \end{array}$$

$$\begin{array}{r} 7 \\ 23 \overline{)161} \\ -161 \end{array}$$

We decided on a one digit answer, $16 \div 2 = 8$, so we tried 8, but when we multiplied, the number was too big! We can't subtract!

So we tried 7. $7 \times 23 = 161$
That works! There is no remainder!

Let's try some more!

Take Lesson 30 Quiz 2