

Review of Division for GED Math

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- **How to do a simple division?**

To answer this question, let's take the following example:

Suppose that you have the following question in a math exam:

Find $\frac{125}{5}$. This question can be expressed in several ways such as "Divide 125 by 5" and "Find $5\overline{)125}$ ". When you see something like this: $5\overline{)125}$, this means that we need to divide the "inside" which is 125 by the "outside" which is 5. Therefore, we call the inside "dividend", and we call the outside "divisor". So, the result will be called "Quotient".

Now, let's solve this problem step-by-step as follows:

$$5\overline{)125}$$

Step 1: Look at the first two numbers in the dividend "125", so we have "12".

Step 2: Think about something we can multiply by divisor "5", so we can get the closest number in terms of value to "12" and **MAKE SURE THE RESULT OF THE MULTIPLICATION IS LESS THAN OR EQUAL 12.**

We know that $5 \times 2 = 10$ and $5 \times 3 = 15$. So we pick up $5 \times 2 = 10$ because it is less than 12.

Step 3: Write the number we used to multiply by 5 to get the result 10 which is 2 above the dividend as follows:

$$\begin{array}{r} 2 \\ 5\overline{)125} \end{array}$$

Step 4: Multiply what we wrote above the dividend which is 2 by the divisor 5. The result is 10. Then, put the result 10 under the dividend as follows:

$$\begin{array}{r} 2 \\ 5\overline{)125} \\ 10 \\ \hline \end{array}$$

Step 5: Always subtract the first two numbers of dividend 125 which is “12” from the result in step 4 which is “10”, so we obtain the result “2” because $12-10=2$ as follows:

$$\begin{array}{r}
 2 \\
 \underline{5} \overline{)125} \\
 10 \\
 \hline
 2
 \end{array}$$

Step 6: Take the number in the divided “125” that we did not use at all which is “5”, and place it next to “2” in step 5 as follows:

$$\begin{array}{r}
 2 \\
 \underline{5} \overline{)125} \\
 10 \\
 \hline
 25
 \end{array}$$

Step 7: From step 6, we got “25”. Now, think about a number we can use to multiply by the divisor “5” so we can get a result less than or equal to “25”. Here, we can use “5” because $5 \times 5 = 25$ which is equal to the result from step 6. So we add “5” above the divided “125”.

$$\begin{array}{r}
 25 \\
 \underline{5} \overline{)125} \\
 10 \\
 \hline
 25
 \end{array}$$

Step 8: Repeat step 4, we obtain the following:

$$\begin{array}{r}
 25 \\
 \underline{5} \overline{)125} \\
 10 \\
 \hline
 25 \\
 25
 \end{array}$$

Step 9: Repeat step 5, we obtain the following:

$$\begin{array}{r} 25 \\ \underline{5 \overline{)125}} \\ 10 \\ \hline 25 \\ 25 \\ \hline 00 \end{array}$$

Step 10: Once you see 00, this means that you are done with simple division process with no remaining from the division process, and the final answer for $\frac{125}{5}$ is the whole number above dividend which is “25”, and as we recall previously that it is called quotient.

Hence, $\frac{125}{5} = 25$.