

Division – Rectangle Sections Method

If the problem is- $5 \overline{) 330}$

$$\begin{array}{r} 5 \quad \boxed{\begin{array}{r} 330 \end{array}} \end{array}$$

- Ask "5 times what tens number gives an answer closest to 330 without going over?"

$$\begin{array}{r} 60 \\ 5 \quad \boxed{\begin{array}{r} 330 \\ -300 \\ \hline 30 \end{array}} \end{array}$$

- $5 \times 60 = 300$ but $5 \times 70 = 350$, so 60 gives us the answer closest to 300 without going over.

$$\begin{array}{r} 60 + \\ 5 \quad \boxed{\begin{array}{r} 330 \\ -300 \\ \hline 30 \end{array}} \quad \boxed{\begin{array}{r} 30 \end{array}} \end{array}$$

- Draw a second rectangle section to the right of the first section.
- Write a plus sign after the 60 between the two sections.
- Write 30, the difference from the first section, inside the second section.

$$\begin{array}{r} 60 + 6 \\ 5 \quad \boxed{\begin{array}{r} 330 \\ -300 \\ \hline 30 \end{array}} \quad \boxed{\begin{array}{r} 30 \\ -30 \\ \hline 0 \end{array}} \end{array}$$

- Ask, "5 times what number gives an answer closest to 30 without going over?"
- $5 \times 6 = 30$
- Write 6 at the top of the second section.
- Multiply 5 by 6 to get 30.
- Write 30 below the existing 30.
- Subtract 30 from 30 to get 0.
- Write the difference, 0, below the second rectangle.

$$\begin{array}{r} 60 + 6 = 66 \\ 5 \quad \boxed{\begin{array}{r} 330 \\ -300 \\ \hline 30 \end{array}} \quad \boxed{\begin{array}{r} 30 \\ -30 \\ \hline 0 \end{array}} \end{array}$$

- Add the quotients from each section to find the quotient: $60 + 6 = 66$.
- So, $330 \div 5 = 66$.

Division- Expanded Notation Method

If the problem is-

$$5 \overline{) 330}$$

$$\begin{array}{r} 60 \\ 5 \overline{) 330} \\ - 300 \\ \hline \end{array}$$

- Ask "5 times what tens number gives an answer closest to 330 without going over?"
- Write 60 above the long-division sign.
- Multiply; $5 \times 60 = 300$.
- Write 300 under 330.

$$\begin{array}{r} 60 \\ 5 \overline{) 330} \\ - 300 \\ \hline 30 \end{array}$$

- Subtract: $330 - 300 = 30$.

$$\begin{array}{r} 6 \\ 60 \\ 5 \overline{) 330} \\ - 300 \\ \hline 30 \end{array}$$

- Ask, "5 times what number gives an answer closest to 30 without going over?"
- Write 6 in the ones place above 60.

$$\begin{array}{r} 6 \\ 60 \\ 5 \overline{) 330} \\ - 300 \\ \hline 30 \\ - 30 \\ \hline 0 \end{array}$$

- Multiply: $5 \times 6 = 30$.
- Write 30 under 30, and then subtract.
- $30 - 30 = 0$, so write 0 below the line.

$$\begin{array}{r} 6 > 66 \\ 60 \\ 5 \overline{) 330} \\ - 300 \\ \hline 30 \\ - 30 \\ \hline 0 \end{array}$$

- Add: $60 + 6 = 66$.
- This means $330 \div 5 = 66$.

Division- Digit-by-Digit Method

If the problem is- $5 \overline{) 330}$

$$\begin{array}{r} 6 \\ 5 \overline{) 330} \\ \underline{-30} \end{array}$$

- Ask, "5 times what number gives an answer closest to 33 without going over?"
 - Write 6 above the second 3 in 33.
 - Multiply: $5 \times 6 = 30$.
 - Write 30 under 33.
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$$\begin{array}{r} 6 \\ 5 \overline{) 330} \\ \underline{-30} \\ 3 \end{array}$$

- Subtract: $33 - 30 = 3$.
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$$\begin{array}{r} 6 \\ 5 \overline{) 330} \\ \underline{-30} \downarrow \\ 30 \end{array}$$

- Bring down the ones-place zero from the dividend to make the number large enough to divide by 5.
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$$\begin{array}{r} 66 \\ 5 \overline{) 330} \\ \underline{-30} \downarrow \\ 30 \end{array}$$

- Ask, "5 times what number gives an answer closest to 30 without going over?"
 - Write 6 above the 3 in 30.
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$$\begin{array}{r} 66 \\ 5 \overline{) 330} \\ \underline{-30} \downarrow \\ 30 \\ \underline{-30} \\ 0 \end{array}$$

- Multiply: $5 \times 6 = 30$.
- Subtract 30 from 30.
- The difference is 0, so write 0 below the line.

Division- Partial Quotients Method

If the problem is-

$$5 \overline{) 330}$$

$$\begin{array}{r} 5 \overline{) 330} \\ \underline{-300} \\ \end{array} \quad \begin{array}{l} 60 \\ \end{array}$$

- What multiple of ten should we try first?
- 60; $5 \times 60 = 300$
- Write 60 to the right of the long line.
- We multiply: $5 \times 60 = 300$ and write 300 under the dividend, making sure to line up the place value.

$$\begin{array}{r} 5 \overline{) 330} \\ \underline{-300} \\ 30 \end{array} \quad \begin{array}{l} 60 \\ \end{array}$$

- Subtract: $330 - 300 = 30$.
- Write 30 under 300, making sure to line up the place value.

$$\begin{array}{r} 5 \overline{) 330} \\ \underline{-300} \\ 30 \\ \underline{-30} \\ \end{array} \quad \begin{array}{l} 60 \\ 6 \end{array}$$

- Ask, "How many 5s are in 30?"
- 6; $5 \times 6 = 30$.
- Write 6 to the right of the long line.
- We multiply: $5 \times 6 = 30$ and write 30 under the left-over dividend, making sure to line up the place value.

$$\begin{array}{r} 5 \overline{) 330} \\ \underline{-300} \\ 30 \\ \underline{-30} \\ 0 \end{array} \quad \begin{array}{l} 60 \\ + 6 \\ \textcircled{66} \end{array}$$

- Subtract: $30 - 30 = 0$.
- Write the 0 under the 30, making sure to line up the place value.
- Add the partial quotients to find the quotient.