



Multiplication

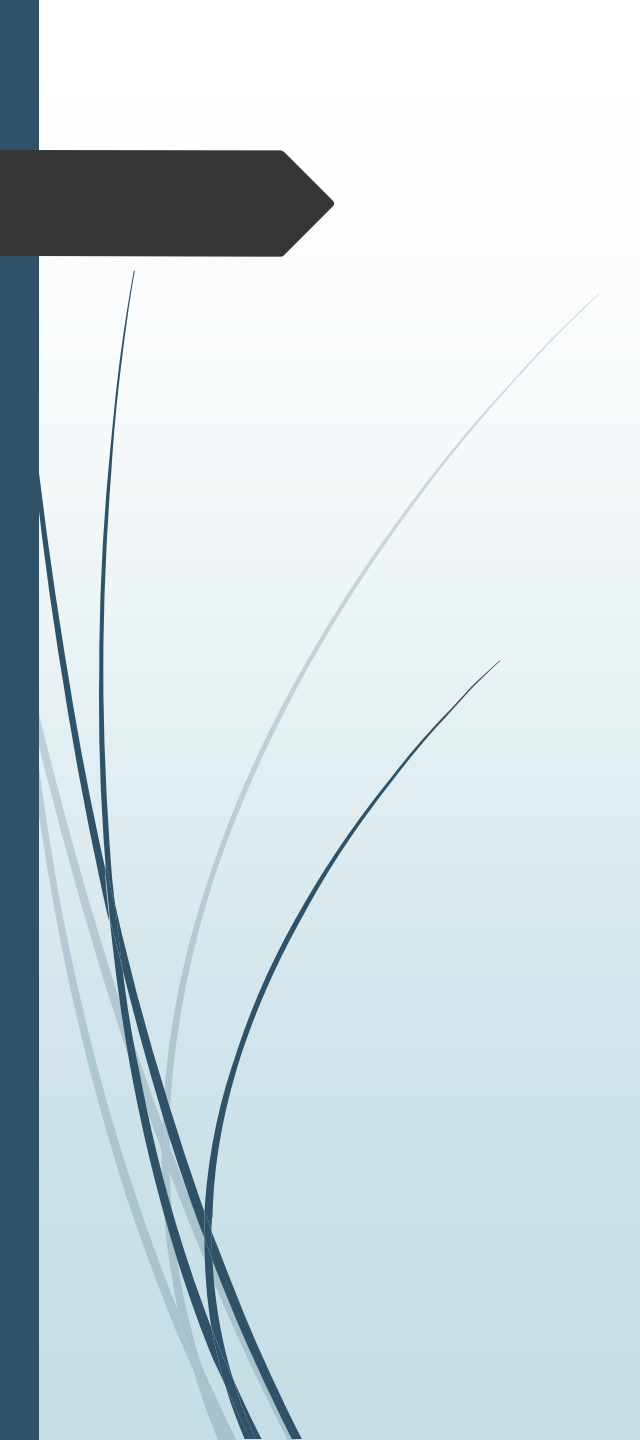
Formal methods of short multiplication – expanded method


$$13 \times 8 = 104$$

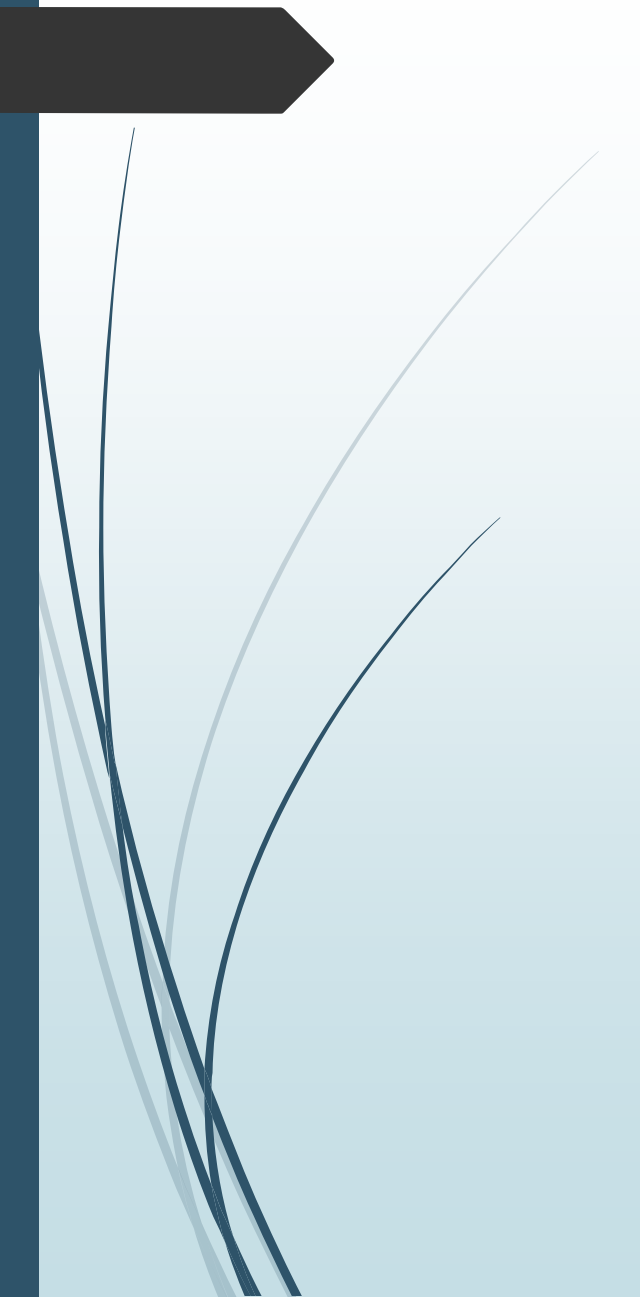
$$\begin{array}{r} 13 \\ \times 8 \\ \hline 24 \\ + 80 \\ \hline 104 \end{array} \quad \begin{array}{l} (3 \times 8) \\ (10 \times 8) \end{array}$$

Start by multiplying the 8 by the 3. Put your answer below the line. Then multiply 8 by 10 and put this answer below your first answer.

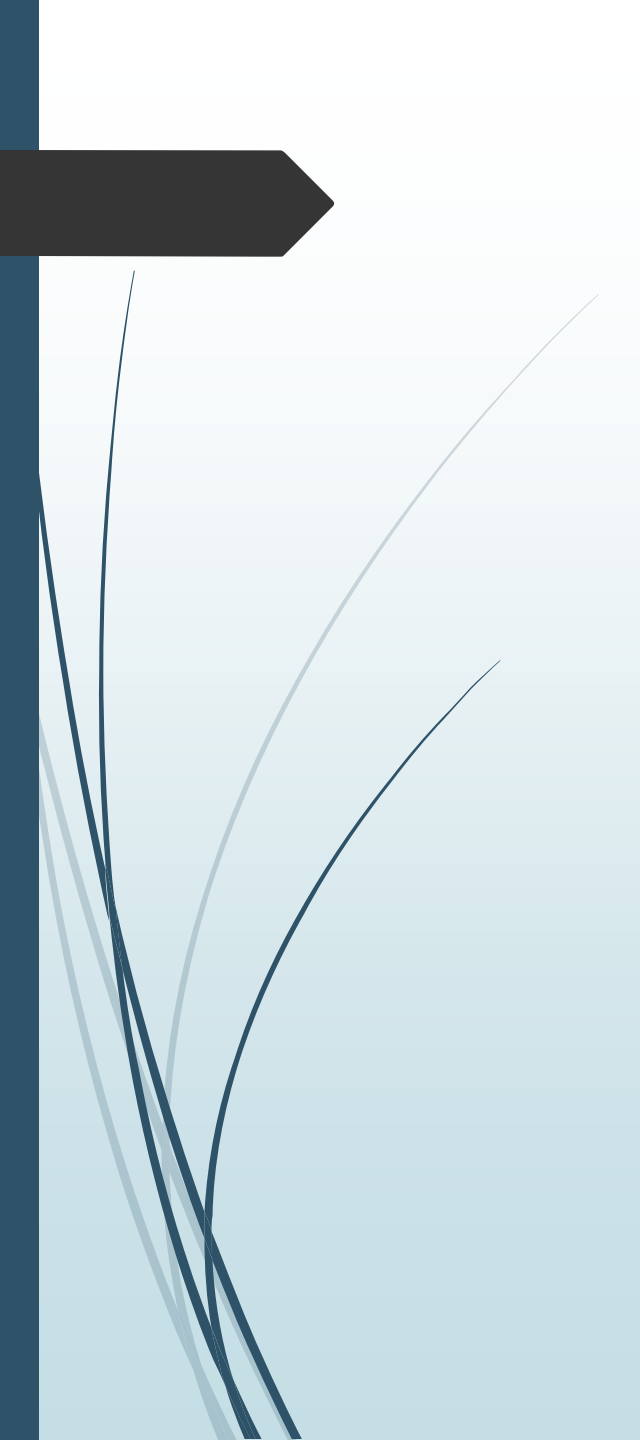
Children can then add the two answers together using column addition to give their total.


$$36 \times 4 =$$

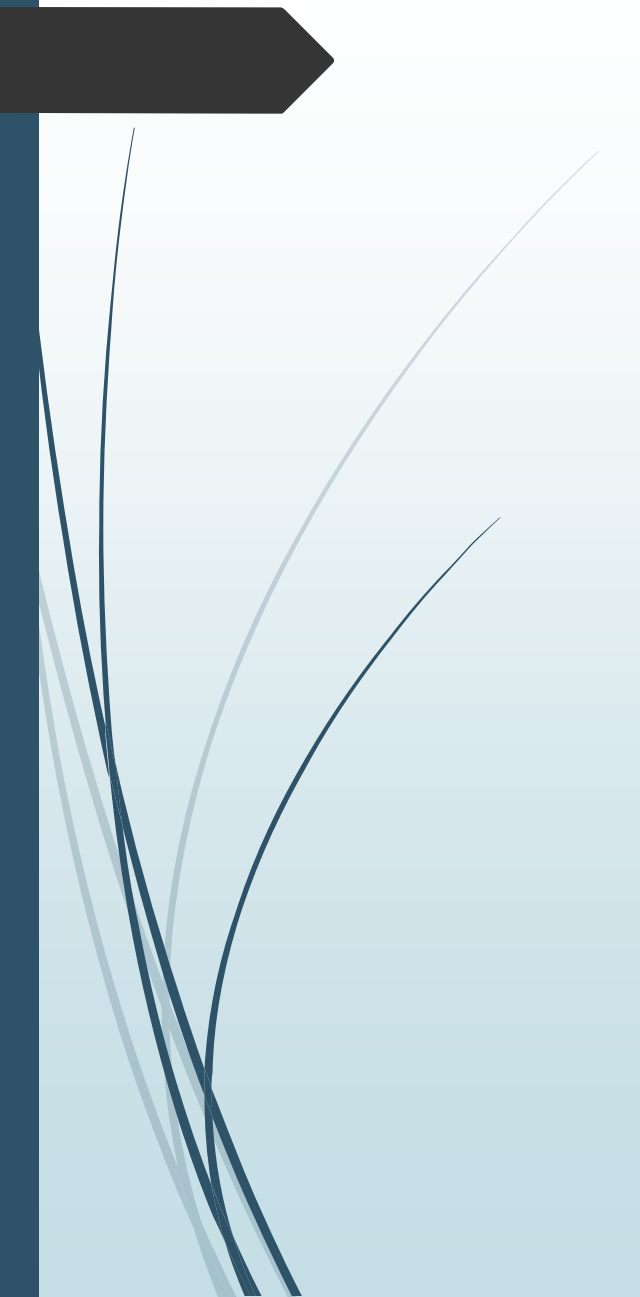
$$\begin{array}{r} 36 \\ \times 4 \\ \hline 24 \\ + 120 \\ \hline 144 \end{array} \quad \begin{array}{l} (4 \times 6) \\ (4 \times 30) \end{array}$$


$$92 \times 3 =$$

$$\begin{array}{r} 92 \\ \times 3 \\ \hline 6 \\ 270 \\ \hline 276 \end{array} \quad \begin{array}{l} (3 \times 2) \\ (3 \times 90) \end{array}$$


$$22 \times 8 =$$

$$\begin{array}{r} 22 \\ \times 8 \\ \hline 16 \\ + 160 \\ \hline 176 \end{array} \begin{array}{l} (8 \times 2) \\ (8 \times 20) \end{array}$$


$$84 \times 5 =$$

$$\begin{array}{r} \\ \times 84 \\ \hline 20 \quad (5 \times 4) \\ 400 \quad (5 \times 80) \\ \hline 420 \\ \hline \end{array}$$

$$8 \times 13 = 104$$

$$\begin{array}{r} 13 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 104 \\ \hline \end{array}$$

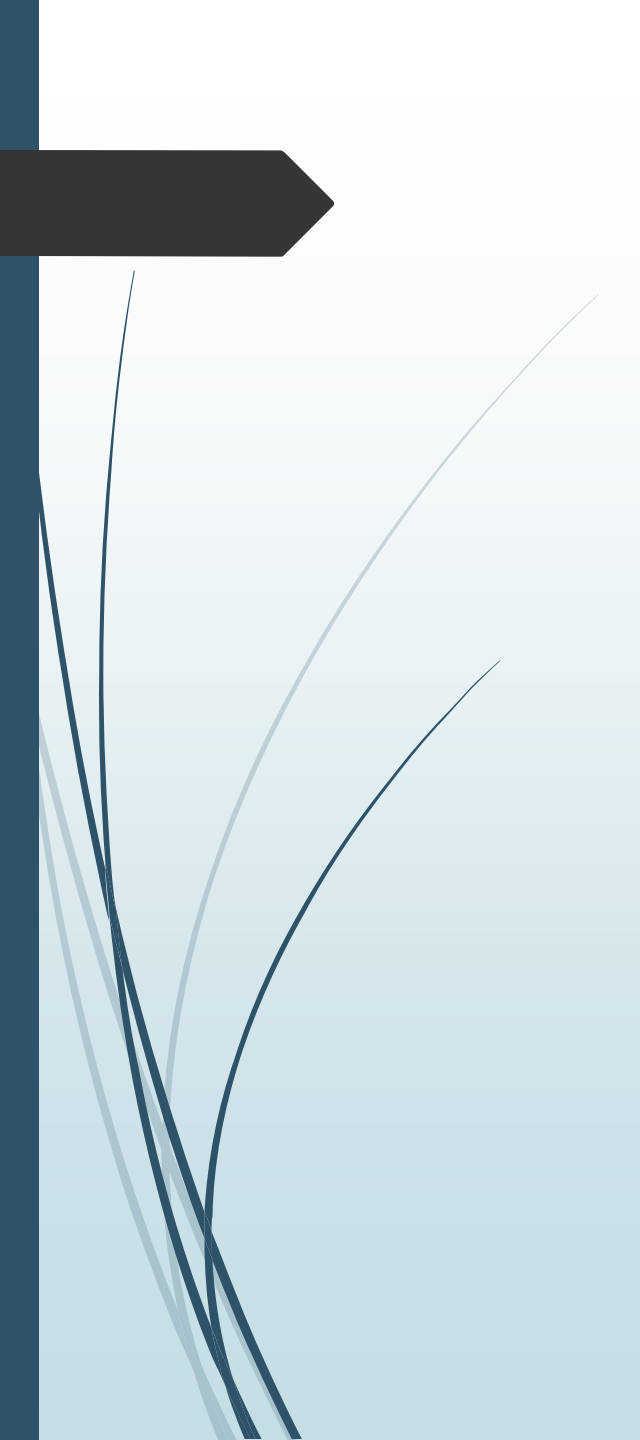
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Set the numbers out with the biggest number on top.

8 times 3 is 24. Put the 4 in the 1s column and the 2 (or 20) just below where the total numbers of tens will go.

Then multiply 8 by 10 making sure to add on any tens from the previous calculation.

The same method can be used to multiply decimals.

A dark grey arrow points to the right from the left edge of the page. Below it, several thin, curved lines in shades of blue and grey represent grass or reeds.
$$76 \times 3 =$$

$$\begin{array}{r} 76 \\ \times 3 \\ \hline 228 \\ \hline 1 \end{array}$$

A dark grey arrow points to the right from the left edge of the page. Below it, several thin, curved lines represent blades of grass.
$$56 \times 8 =$$

$$\begin{array}{r} 56 \\ x 8 \\ \hline 448 \\ \hline 4 \end{array}$$