

Multiply 2-Digits by 2-Digits

To multiply 2-digit numbers by 2-digit numbers using the formal method



1) Solve the multiplication calculations. Use the completed area models to help you.

a) $22 \times 12 =$

\times	20	2
10		
2		

$$\begin{array}{r}
 \times \quad \begin{array}{|c|c|c|} \hline \text{H} & \text{T} & \text{O} \\ \hline 2 & 2 & \\ \hline 1 & 2 & \\ \hline \end{array} \\
 \times \quad \begin{array}{|c|c|c|} \hline \text{H} & \text{T} & \text{O} \\ \hline 2 & 2 & \\ \hline 1 & 2 & \\ \hline \end{array} \\
 + \quad \begin{array}{|c|c|c|} \hline \text{H} & \text{T} & \text{O} \\ \hline 0 & 0 & \\ \hline 0 & 0 & \\ \hline \end{array} \\
 \end{array}$$

(22×2)
 (22×10)

b) $31 \times 11 =$

\times	30	1
10		
1		

$$\begin{array}{r}
 \times \quad \begin{array}{|c|c|c|} \hline \text{H} & \text{T} & \text{O} \\ \hline 3 & 1 & \\ \hline 1 & 1 & \\ \hline \end{array} \\
 \times \quad \begin{array}{|c|c|c|} \hline \text{H} & \text{T} & \text{O} \\ \hline 3 & 1 & \\ \hline 1 & 1 & \\ \hline \end{array} \\
 + \quad \begin{array}{|c|c|c|} \hline \text{H} & \text{T} & \text{O} \\ \hline 0 & 0 & \\ \hline 0 & 0 & \\ \hline \end{array} \\
 \end{array}$$

(31×1)
 (31×10)

c) $32 \times 21 =$

\times	30	2
20		
1		

$$\begin{array}{r}
 \times \quad \begin{array}{|c|c|c|} \hline \text{H} & \text{T} & \text{O} \\ \hline 3 & 2 & \\ \hline 2 & 1 & \\ \hline \end{array} \\
 \times \quad \begin{array}{|c|c|c|} \hline \text{H} & \text{T} & \text{O} \\ \hline 3 & 2 & \\ \hline 2 & 1 & \\ \hline \end{array} \\
 + \quad \begin{array}{|c|c|c|} \hline \text{H} & \text{T} & \text{O} \\ \hline 0 & 0 & \\ \hline 0 & 0 & \\ \hline \end{array} \\
 \end{array}$$

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 (32×20)

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 (32×20)