

PARTIAL QUOTIENTS

120 ÷ 5 example

STEP 1: set up division problem

$$5 \overline{) 120}$$

STEP 2: Select a number to multiply by 5 (divisor) to get close to 120 (dividend) and subtract

$$\begin{array}{r} 5 \overline{) 120} \\ - 50 \\ \hline 70 \end{array} \times 10$$

STEP 3: Repeat Step 2 until you have subtracted all the way to zero

$$\begin{array}{r} 5 \overline{) 120} \\ - 50 \\ \hline 70 \\ - 50 \\ \hline 20 \\ - 20 \\ \hline 0 \end{array} \begin{array}{l} \times 10 \\ \times 10 \\ \times 4 \end{array}$$

STEP 4: Add together your partial quotients on the side. This is your total quotient.

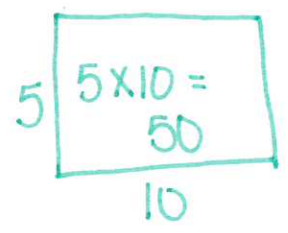
$$\begin{array}{r} 24 \leftarrow \\ 5 \overline{) 120} \\ - 50 \\ \hline 70 \\ - 50 \\ \hline 20 \\ - 20 \\ \hline 0 \end{array} \left. \begin{array}{l} \times 10 \\ \times 10 \\ \times 4 \end{array} \right\} 24$$

PARTIAL QUOTIENT AREA MODEL

$120 \div 5$ example

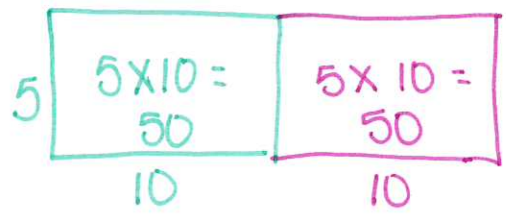
STEP 1: Take your first partial quotient and draw an area model

$$\begin{array}{r|l}
 5 \overline{) 120} & \\
 \underline{-50} & \times 10 \\
 70 & \\
 \underline{-50} & \times 10 \\
 20 & \\
 \underline{-20} & \times 4 \\
 \hline
 0 & 24
 \end{array}$$



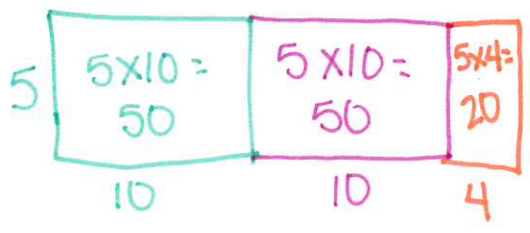
STEP 2: Take your next partial product and add it to the area model

$$\begin{array}{r|l}
 5 \overline{) 120} & \\
 \underline{-50} & \times 10 \\
 70 & \\
 \underline{-50} & \times 10 \\
 20 & \\
 \underline{-20} & \times 4 \\
 \hline
 0 & 24
 \end{array}$$



STEP 3: Repeat step 2 for all partial quotients (this may be more than 3 quotients)

$$\begin{array}{r|l}
 5 \overline{) 120} & \\
 \underline{-50} & \times 10 \\
 70 & \\
 \underline{-50} & \times 10 \\
 20 & \\
 \underline{-20} & \times 4 \\
 \hline
 0 & 24
 \end{array}$$



$$\begin{array}{r}
 50 \\
 50 \\
 + 20 \\
 \hline
 120
 \end{array}$$