

Steps to Success for Box Array/Area Model Div.

1. Draw a rectangle.
2. Write the divisor to the left side of the rectangle and the dividend inside the rectangle close to the left side.
3. Think in multiplies of 10, 100, or 1,000 times the divisor.
 - Write this answer above rectangle of the dividend
 - Write the product of the divisor times the number above below the dividend inside the rectangle
4. Subtract the dividend and the product.
5. Add an addition sign above with the multiple and draw a line down in the rectangle.
6. Bring the difference from step 4 to the right of the newly formed line.
7. Repeat steps 3-6 until you subtract and get a remainder less than the divisor or a zero.
8. Add all of the multiples above the rectangle to determine your quotient
9. Check
 - Is my quotient in place value above the dividend?
 - Does my answer make sense (remainder less than the divisor?)
 - Multiply the quotient by the divisor and add remainder to product

$$34 \times 22 + 15 = 763$$

$763 \div 22$

$30 + 4 + 0$

22

610
~~660~~
40

40
~~88~~
12

12
~~33~~
15

$$34 \text{ r } 15$$

$$\underline{\underline{5}} \underline{\underline{6}} \underline{\underline{5}} \underline{\underline{2}} \div \underline{18} = 314$$

$$200 + 100 + 10 + 4$$

add to find quotient

$\begin{array}{r} 40 \\ \cancel{5000} \\ - \underline{3600} \\ \hline 1400 \end{array}$	$\begin{array}{r} + 1400 \\ + 600 \\ \hline \cancel{12000} \\ - \underline{1800} \\ \hline 200 \end{array}$	$\begin{array}{r} + 200 \\ + 50 \\ \hline \cancel{1250} \\ - \underline{180} \\ \hline 70 \end{array}$	$\begin{array}{r} + 70 \\ + 2 \\ \hline \cancel{72} \\ - \underline{72} \\ \hline 0 \end{array}$
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20

30

30

18

$$\begin{array}{r} +1 \\ \times 18 \\ \hline 36 \end{array}$$

$$\begin{array}{r} +3 \\ \times 18 \\ \hline 72 \end{array}$$

$$\underline{\underline{574}} \div 16 = 35 \text{ r}14$$

15
0
0
16
+
16
16
3
16
3
16
5
96 80

$$30 + 5 + 0$$

$\begin{array}{r} 410 \\ 500 \\ -480 \\ \hline 20 \end{array}$	$\begin{array}{r} 20 \\ +70 \\ \hline 90 \\ -80 \\ \hline 10 \end{array}$	$\begin{array}{r} 10 \\ +4 \\ \hline 14 \\ \text{remainder} \end{array}$
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16 * 14 = ?
so write
a zero
above

Standard

$$\begin{array}{r} \times 35 \text{ r}14 \\ 16 \overline{) 574} \\ \underline{-48} \\ 94 \\ \underline{-80} \\ 14 \end{array}$$

Partial Quotients

$$\begin{array}{r} 35 \text{ r}14 \\ 16 \overline{) 574} \\ \underline{-480} \\ 94 \\ \underline{-80} \\ 14 \end{array} \begin{array}{l} \text{xxxx} \\ = 16 \times 30 \\ \text{xxxx} \\ = 16 \times 5 \end{array}$$

Standard

$$\begin{array}{r} 13 \overline{) 692} \\ \underline{65} \\ 42 \\ \underline{39} \\ 3 \end{array}$$

$13 \times 53 = 699$ (too high)
 $13 \times 52 = 676$ (too low)
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Partial Quotients

$$\begin{array}{r} 53 \text{ r } 3 \\ 13 \overline{) 692} \\ \underline{65} \\ 42 \\ \underline{39} \\ 3 \end{array} = 13 \times 50 + 13 \times 3$$

Area Model

$$\underline{6} \underline{9} \underline{2} \div 13 = 53 \text{ r } 3$$

$40 + 10 + 3$

$13 \overline{) 600}$ $\underline{520}$ 80	$+ 90$ $\underline{170}$ 40	$+ 40$ $\underline{212}$ 3
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