



Calculation at Chesswood

Multiplication

Number Line

Partitioning

Partitioning - Grid

Expanded Column

Compact Column

So which method do I use?

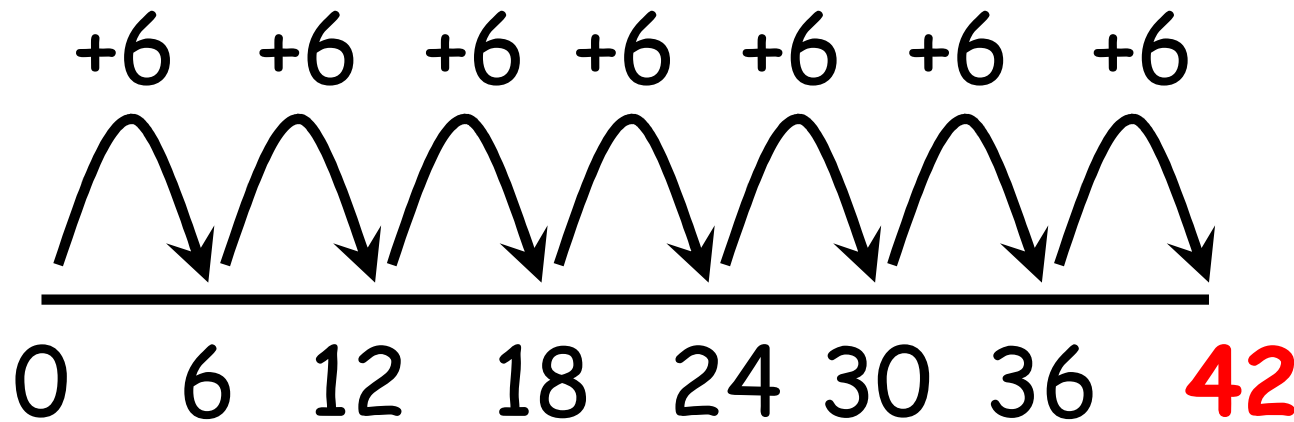
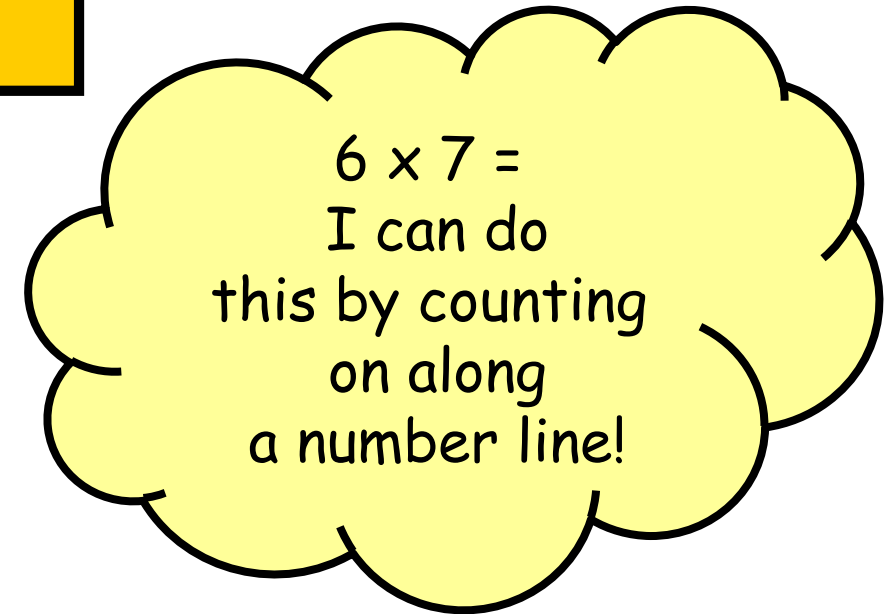




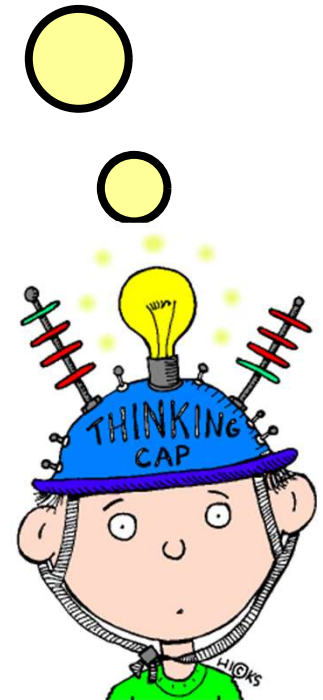
Number Line

We are multiplying by counting on... 6 each time, and do this 7 times.

Start with 0 on the number line.



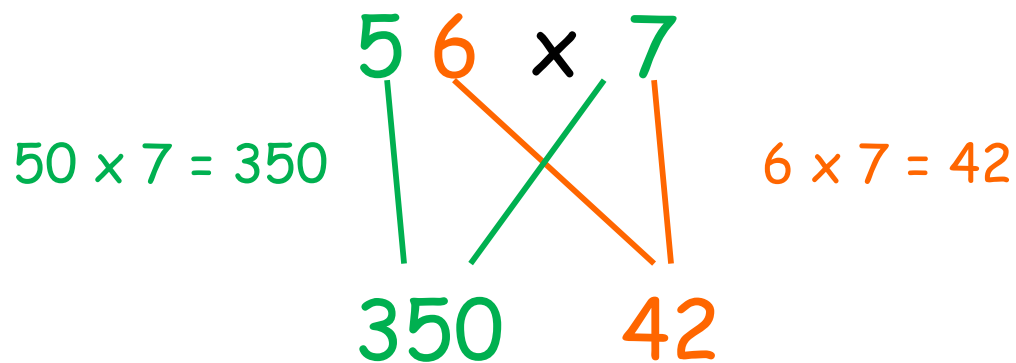
$$6 \times 7 = 42$$





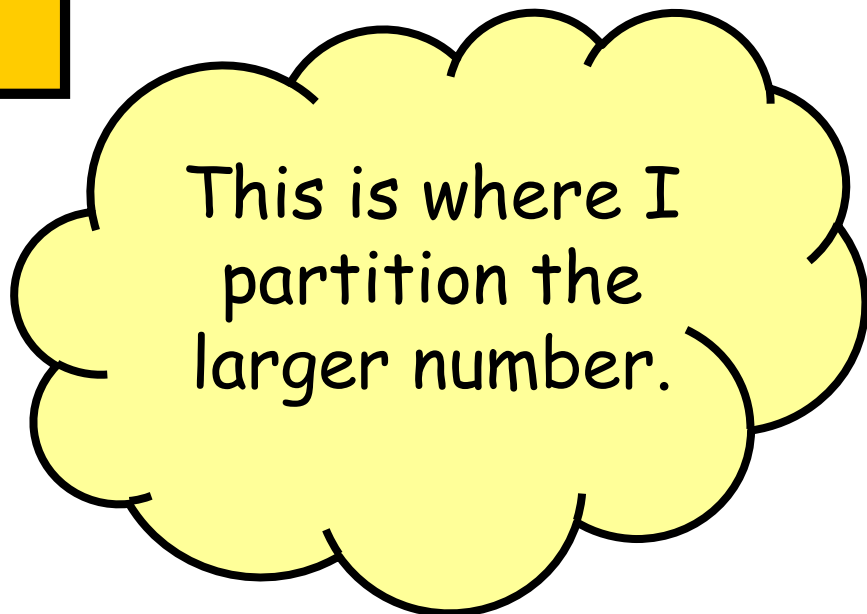
Partitioning

56 x 7 partition 56
to 50 and 6



$$350 + 42 = 392$$

$$56 \times 7 = 392$$





Grid - Short

56 x 7... partition 56 to 50 + 6

$$50 \times 7 = 350$$

$$6 \times 7 = 42$$

50

6

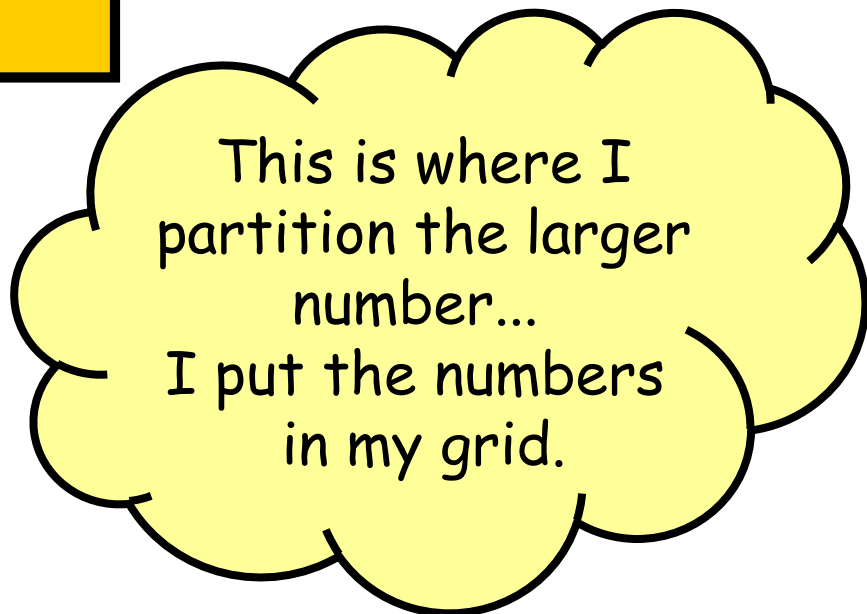
7

	50	6
7	350	42

= 392

Now add 350 and 42

$$56 \times 7 = 392$$





Grid - Long

56×27 partition 56 to $50 + 6$
and 27 to $20 + 7$

I can use my partitioning skills in a larger grid.

	50	6	
20	1000	120	= 1120
7	350	42	= 392
	<hr/>		
	$1120 + 392 = 1512$		

$$56 \times 27 = 1512$$

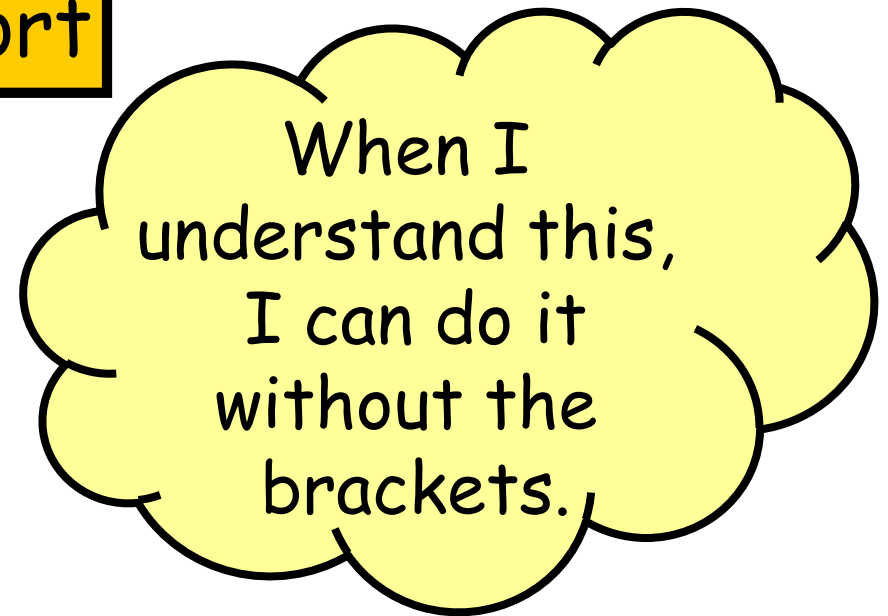




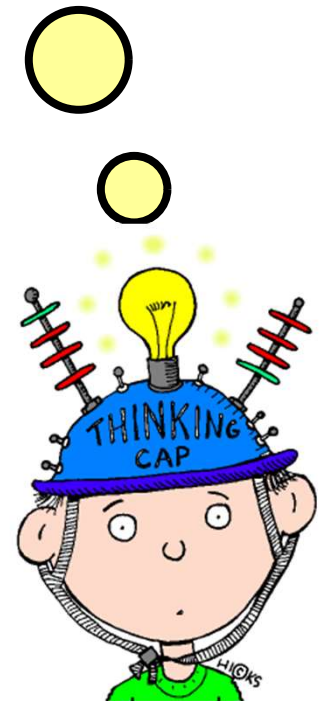
Expanded Column - Short

Use squared paper to write the numbers in columns.

$$\begin{array}{r} 56 \\ \times 7 \\ \hline 42 \quad (6 \times 7) \\ + 350 \quad (50 \times 7) \\ \hline 392 \\ \hline \end{array}$$



$$56 \times 7 = 392$$

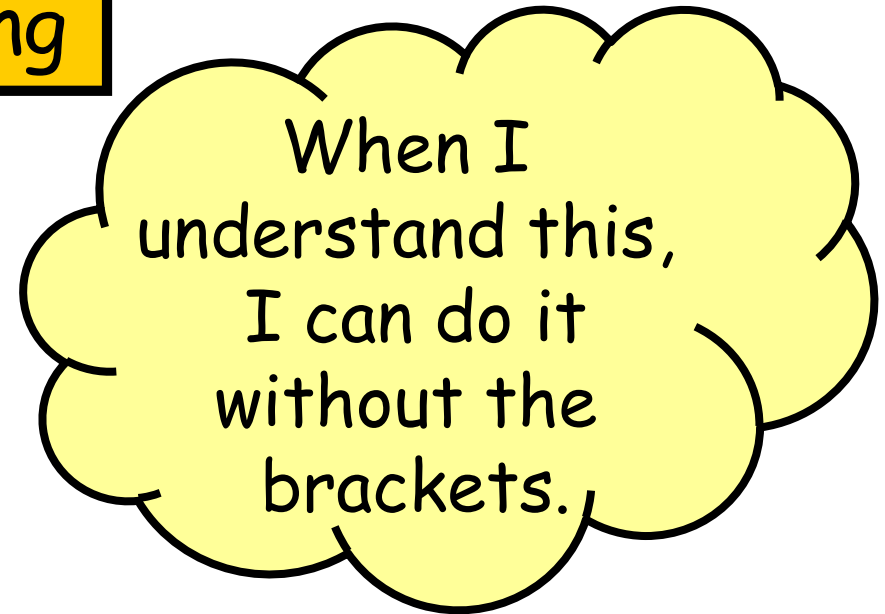




Expanded Column - Long

Use squared paper to write the numbers in columns.

$$\begin{array}{r} 56 \\ \times 27 \\ \hline 42 \quad (6 \times 7) \\ 350 \quad (50 \times 7) \\ 120 \quad (6 \times 20) \\ + 1000 \quad (50 \times 20) \\ \hline 1512 \\ \hline 1 \end{array}$$



$$56 \times 27 = 1512$$

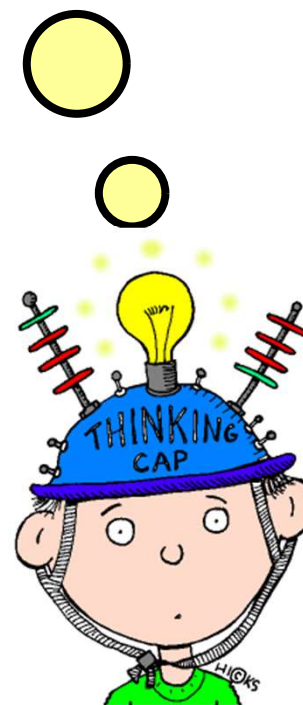
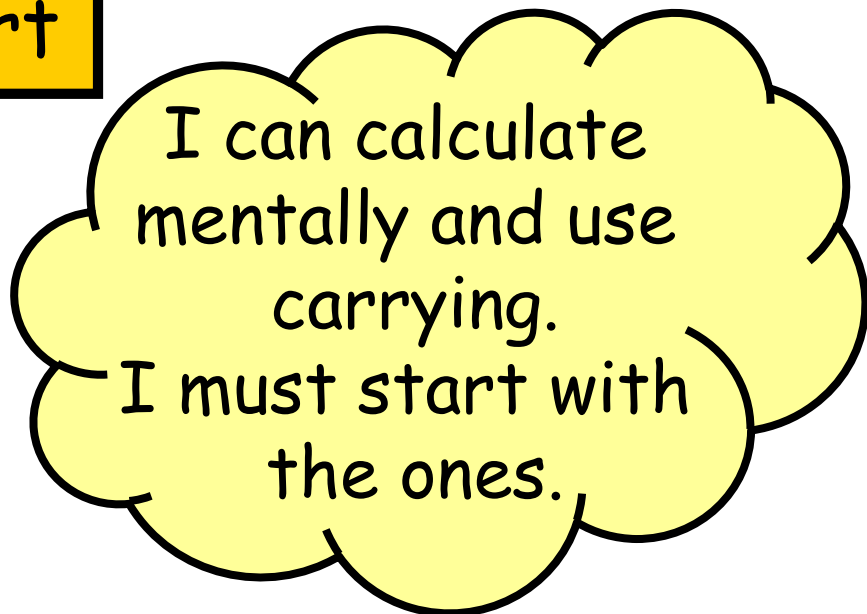


Compact Column - Short

Use squared paper to write the numbers in columns.

$$\begin{array}{r} 56 \\ \times 7 \\ \hline 392 \\ \hline 4 \end{array}$$

$$\begin{array}{l} (6 \times 7 = 42) \\ (50 \times 7 = 350) \end{array}$$



$$56 \times 7 = 392$$



Compact Column - Long

Use squared paper to write the numbers in columns.

$$\begin{array}{r} 56 \\ x 27 \\ \hline 392 \\ 4 \\ + 1120 \\ \hline 1 \\ \hline \hline 1512 \end{array}$$

(56×7)
 (56×20)

I can calculate mentally and use carrying with larger numbers.



$$56 \times 27 = 1512$$