


Pattern Table

	1	2	3	4	5	6	11
							
a  _____	4	8	12	16	20	24	
b  _____	4	6	8	10	12	14	
c  _____	4	7	10	13	16	19	
d  _____	4	9	14	19	24	29	
e  _____							

1 Study the patterns formed by changing the numbers in the  row. Explain in words how the pattern in each row was formed?

a _____
 b _____
 c _____
 d _____

2 Write the rule to describe how each row was formed.

a _____ b _____
 c _____ d _____

3 Complete the last column, using the rule.

4 Make up another rule for e where the answer for the 1st column is also 4, then complete the table.



Drawing tables

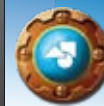
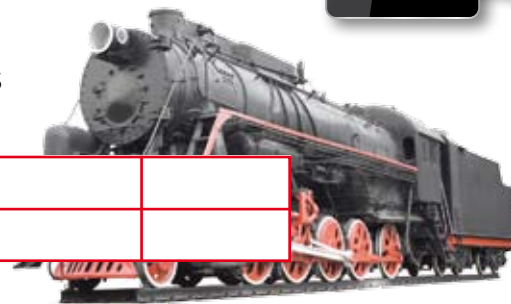


Table of values 2



- 1 A non-stop train leaves Clodvale at 2:13 pm and takes 5 minutes to travel between each station.

Station	Clodvale	Station 1	Station 2	Station 3			
Time	2:13 pm	2:18 pm					

When does it arrive at the sixth station? _____

- 2 Joshua takes 5 nails for the first frame he builds, but he has to use one extra nail on each frame thereafter.

Frames	1	2	3			
Nails	5	11	18			

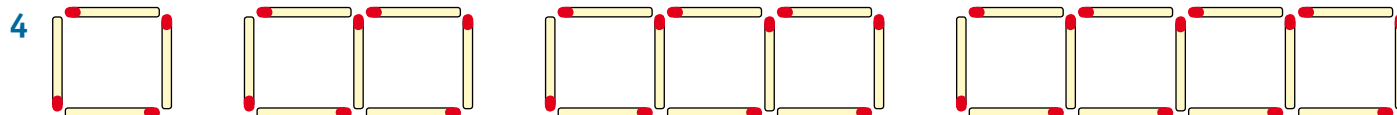


How many nails has he used by the sixth frame? _____

- 3 Beginning with a four by four square of tiles on the bottom layer, Daniel builds 5 layers on top.

Layer	1	2	3			
Tiles	16					

How many tiles will he use for six layers of tiles? _____



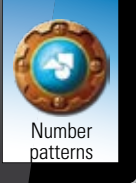
Squares	1	2	3	4				
Matches								

How many matches will be used to build 9 squares? _____

- 5 a Using the above questions as examples, make up your own pattern and draw its table.
 b Write two questions you could ask the class about it.



Number sentences



Use your knowledge of inverse operations to solve equations. Change the side, change the sign.

eg $5 + x = 12$
 $x = 12 - 5$
 $x = 7$

Check your solution by substituting in the original equation.

1 $d + d + d + d = 240$

$300 - d = 240$

$d - 10 = 50$

$d = \underline{\hspace{2cm}}$

3 $m \div 10 = 5.6$

$m + 4 = 60$

$\frac{1}{2}m = 28$

$m = \underline{\hspace{2cm}}$

5 $k^2 = 121$

$k + 3 = 14$

$3^2 + 2 = k$

$k = \underline{\hspace{2cm}}$

8 $J - 75 = 2 \times 15$

$100 + J = 20.5 \times 10$

$J \div 5 = 7 \times 3$

$J = \underline{\hspace{2cm}}$

2 $b^2 = 40 - 4$

$2^2 + 1 = b - 1$

$b \div 2 = 3$

$b = \underline{\hspace{2cm}}$

4 $\spadesuit + 15 = 22$

\spadesuit squared = 49

$30 - \spadesuit = 23$

$\spadesuit = \underline{\hspace{2cm}}$

6 $\frac{1}{3}$ of $Y = 8$

$\frac{1}{2}$ of $Y = 12$

$Y + 6 = 30$

$Y = \underline{\hspace{2cm}}$

9 $s + s + s = 42$

$28 - s = 7 \times 2$

$s + 6 = \frac{1}{3}$ of 60

$s = \underline{\hspace{2cm}}$

7 $600 - \star = 580$

$4 \times \star = 100 - 20$

$\star + \star = 40$

$\star = \underline{\hspace{2cm}}$

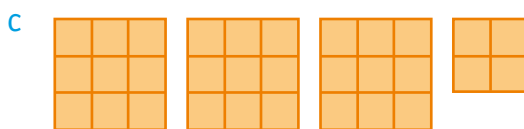
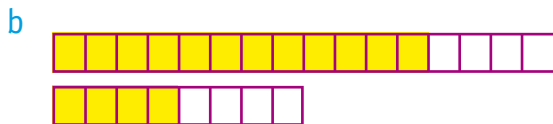
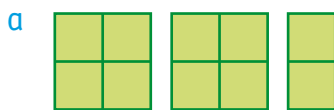
10 $A^2 + 9 = 130$

$143 \div 13 = A$

$6 \times A = 57 + 9$

$A = \underline{\hspace{2cm}}$

11 Study these diagrams.



Match each diagram with its equation.

$3 \times 3^2 + 2^2 = 31$

$24 - 3 \times 4 = 12$

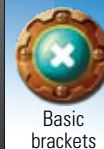
$\frac{3}{4} \times 16 + \frac{1}{2}$ of $8 = 16$

$2.5 \times 4 = 10$

Work backwards

I think of a number, and add 10 before I multiply by 3. I then divide by 4, subtract 2 and multiply by 9 and arrive at 63. What was my first number?

In the right order



Remember!

Order of Operations

First - Brackets

Next - Multiply or divide in the order in which they appear.

Last - Add and subtract in the order in which they appear.



1 Explain these equations.

eg $14 \times 5 + 17 = 87$

Fourteen is multiplied by five before seventeen is added, for a total of 87.

a $11 \times 5 + 3^2 - 6 =$ _____

b $42 - 16 + 13 \times 2 =$ _____

c $3 \cdot 57 \times 100 - 2 \times 10 =$ _____

d $1 \cdot 5 \times (5 \cdot 75 + 1 \cdot 25) =$ _____

Try to use the memory function on the calculator to check your work.

2 Write the number sentence and solve it.

a To 5·5, I add 3 before taking 1·5 away. _____ = _____

b Add 12 to six multiplied by 14 and divide by 3. _____ = _____

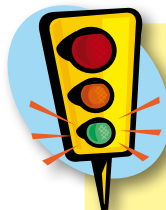
c Divide thirty-five by 5 then add the product of six and four. _____ = _____

d Square 7 and multiply by the product of 15 and zero. _____ = _____

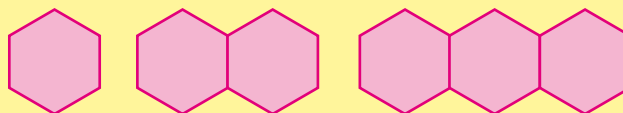
e Multiply 2·5 by 100 and subtract six cubed. _____ = _____

3 Complete the table.

		2·3	1·6	3·5	4·1	5	7·05
a		1·6		1·8		4·9	1·5
b	-		0·65		2·9		
c	+						



Challenge! Complete the table to show the number of matches needed to make this pattern of hexagons.



Number of hexagons	1	2	3	4	5	6	10	15	20	50
Numbers of matches	6	11								

