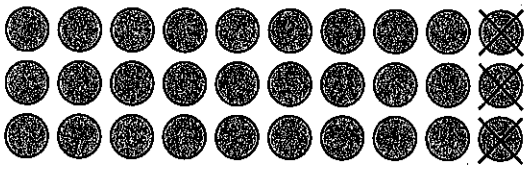
Using known facts – 9 times table

If you get stuck on a 9 times table fact, you can use the 10 times table facts and then build down.

$3 \times 9 = \boxed{?}$



$3 \times 10 = 30 - 3 \longrightarrow$ So, $3 \times 9 = 27$

1 **Think of the × 10 facts and build down to get the × 9 facts. The first one is done for you.**

× 10 table	Build down by	× 9 table
1 × 10 = 10	1	1 × 9 = 9
2 × 10 = 20		
3 × 10 = 30		
4 × 10 = 40		
5 × 10 = 50		
6 × 10 = 60		
7 × 10 = 70		
8 × 10 = 80		
9 × 10 = 90		
10 × 10 = 100		

2 **Complete the × 9:**

×	2	6	4	8	3	9	10	5	7
9									

Using known facts – square numbers

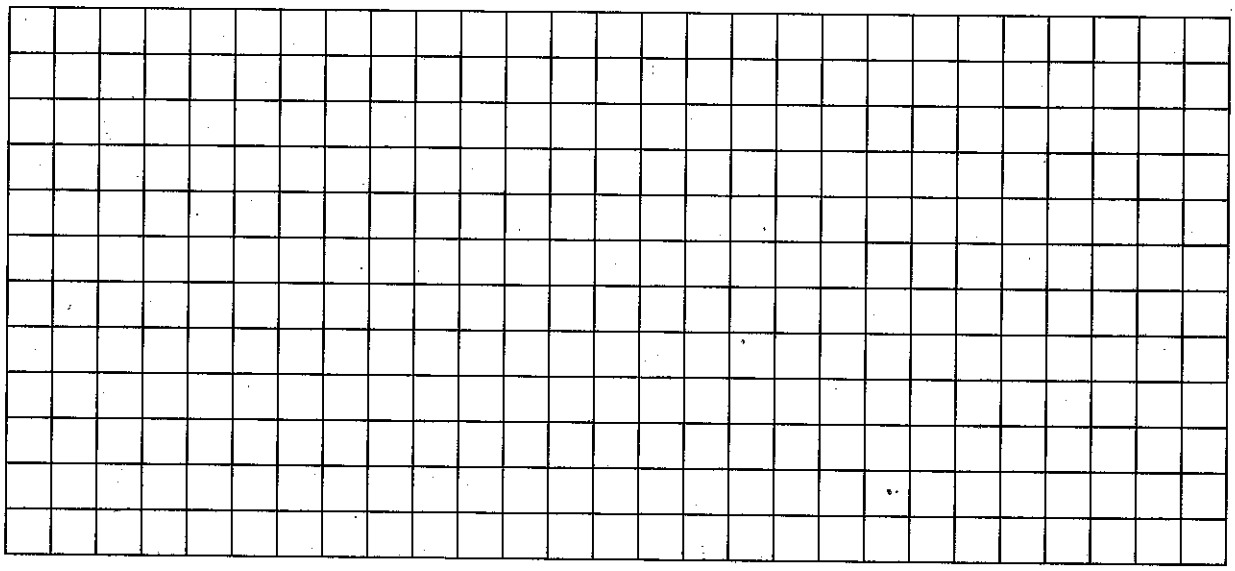
A square number is a number multiplied by itself.

$1 \times 1 = 1$ $\quad$ $2 \times 2 = 4$ $\quad$ $3 \times 3 = 9$

$1^2 = 1$ $\quad$ $2^2 = 4$ $\quad$ $3^2 = 9$

1 **Show these square numbers on the grid and write what they are equal to:**

a $4^2 =$ ☐ **b** $6^2 =$ ☐ **c** $5^2 =$ ☐ **d** $3^2 =$ ☐ **e** $7^2 =$ ☐



2 **Shade the square numbers on this multiplication grid:**

×	2	3	4	5	6	7	8	9	10
2	4	6	8	10	12	14	16	18	20
3	6	9	12	15	18	21	24	27	30
4	8	12	16	20	24	28	32	36	40
5	10	15	20	25	30	35	40	45	50
6	12	18	24	30	36	42	48	54	60
7	14	21	28	35	42	49	56	63	70
8	16	24	32	40	48	56	64	72	80
9	18	27	36	45	54	63	72	81	90
10	20	30	40	50	60	70	80	90	100

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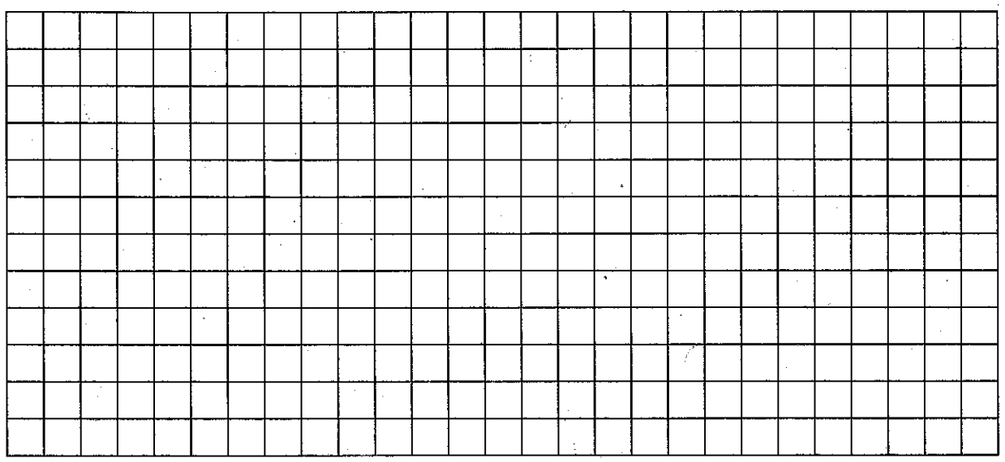

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3	6	9	12	15	18	21	24	27	30
4	8	12	16	20	24	28	32	36	40
5	10	15	20	25	30	35	40	45	50
6	12	18	24	30	36	42	48	54	60
7	14	21	28	35	42	49	56	63	70
8	16	24	32	40	48	56	64	72	80
9	18	27	36	45	54	63	72	81	90
10	20	30	40	50	60	70	80	90	100

Using known facts – factors and multiples

When 2 numbers are multipled together, the answer is called a multiple.
The first 3 multiples of 2 are 2, 4, 6.

$1 \times 2 = 2$ $\quad$ $2 \times 2 = 4$ $\quad$ $3 \times 2 = 6$

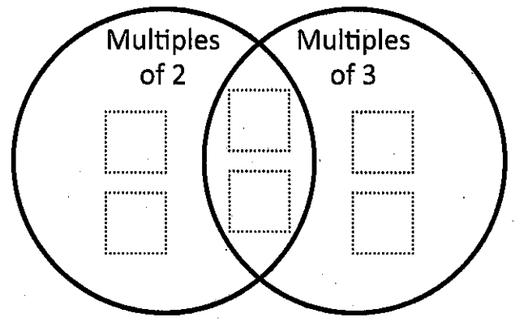
5, 10, 15, 20, 25, 30, 35, 40, 45, 50 are the first 10 multiples of 5.

1 **List the first ten multiples of each number:**

a 6	6									
b 2	2									
c 10										
d 3										
e 4										

2 **Write these numbers in the correct spots on the Venn diagram:**

8 $\quad$ 4 $\quad$ 9 $\quad$ 6 $\quad$ 12 $\quad$ 3

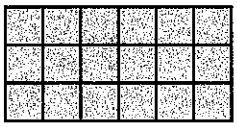


The space in the diagram where the circles overlap is where you put numbers that are *both* multiples of 2 and 3.

3 **Can you think of any other numbers up to 60 that could go into the overlapping space in the Venn diagram above?**

Using known facts – factors and multiples

Factors are numbers that you multiply together to give a multiple.



3 × 6 = 18

2 × 9 = 18

These arrays show some of the factors of 18: 3, 6, 2 and 9.

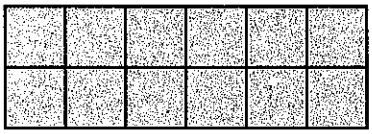
Can you think of any other factors of 18?

1 **Complete the number sentence for each set of arrays and then list the factors.**

a

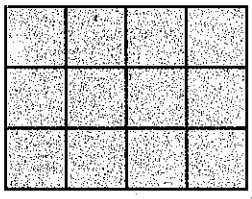
□ × □ = □

b



□ × □ = □

c



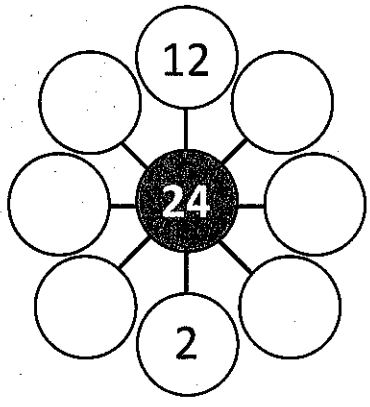
□ × □ = □

d The factors of 12 are:

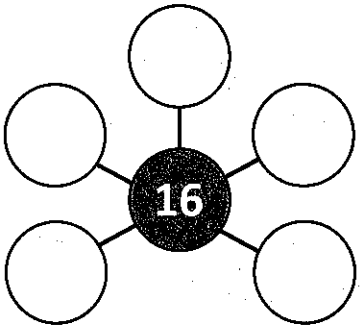
_____

2 **Complete each diagram to show the factors of the number in the middle circle:**

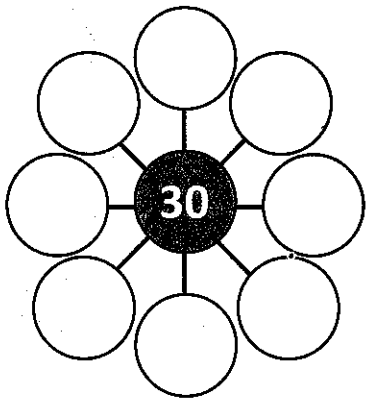
a



b



c



Using kn ls – factors and multiples

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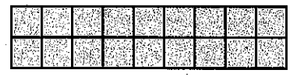
3 × 6 = 18



2 × 9 = 18

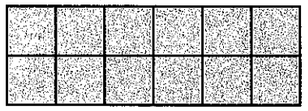
These arrays show some of the factors of 18: 3, 6, 2 and 9.

Can you think of any other factors of 18?

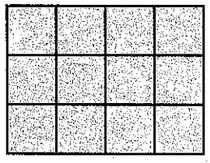
1 Complete the number sentence for each set of arrays and then list the factors.

a 

□ × □ = □

b 

□ × □ = □

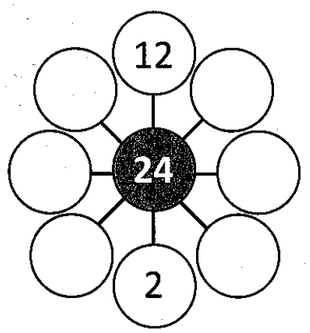
c 

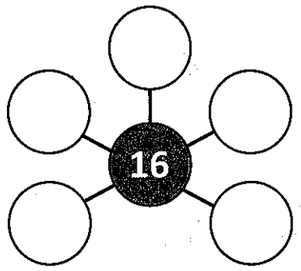
□ × □ = □

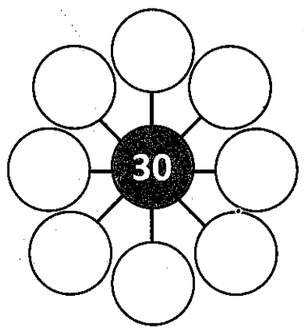
d The factors of 12 are:

_____

2 Complete each diagram to show the factors of the number in the middle circle:

a 

b 

c 

Mental multiplication strategies – multiplying by 10 and 100

When we multiply any number by 10, a zero goes in the units column and the digits all move one space along to the left.

When we multiply any number by 100, a zero goes in both the units and the tens columns and all the digits move two spaces along to the left.

Thousands	Hundreds	Tens	Units	
		4	5	
	4	5	0	× 10
4	5	0	0	× 100

1 Use the place value tables to multiply these numbers by 10 and 100:

a

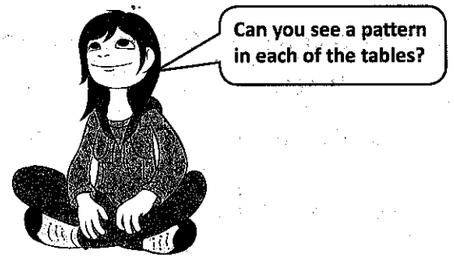
Th	H	T	U	
		1	5	
				× 10
				× 100

b

Th	H	T	U	
		4	8	
				× 10
				× 100

c

Th	H	T	U	
		7	2	
				× 10
				× 100



2 Use patterns to solve these:

a 14 × 1 = □ 14 × 10 = □ 14 × 100 = □

b 25 × 1 = □ 25 × 10 = □ 25 × 100 = □

c 82 × 1 = □ 82 × 10 = □ 82 × 100 = □