

Multiplication facts – 5 and 10 times tables

The 5 and 10 times tables are easier if you learn them together.

1 Answer the 5 times table:

$1 \times 5 = \boxed{5}$

$2 \times 5 = \boxed{10}$

$3 \times 5 = \boxed{15}$

$4 \times 5 = \boxed{20}$

$5 \times 5 = \boxed{25}$

$6 \times 5 = \boxed{30}$

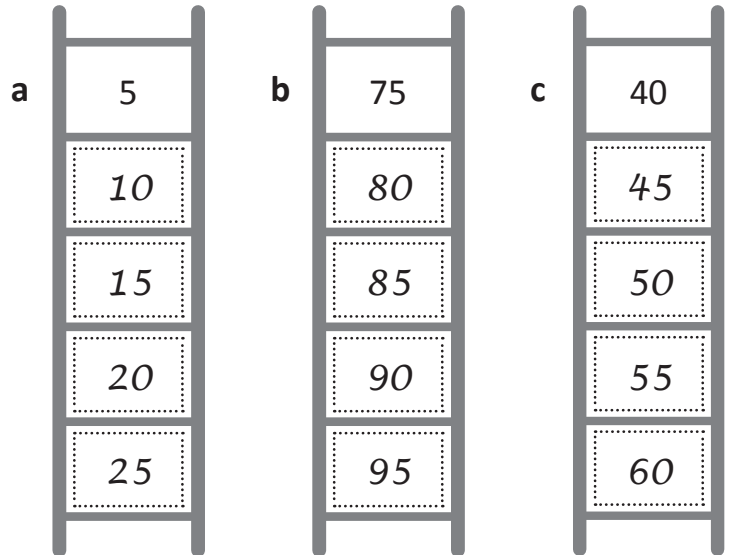
$7 \times 5 = \boxed{35}$

$8 \times 5 = \boxed{40}$

$9 \times 5 = \boxed{45}$

$10 \times 5 = \boxed{50}$

2 Count in 5s down the ladders:



3 Fill in the missing number for each times table fact:

a $\boxed{5} \times 5 = 25$

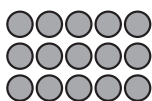
b $\boxed{9} \times 5 = 45$

c $\boxed{6} \times 5 = 30$

d $\boxed{10} \times 5 = 50$

e $\boxed{7} \times 5 = 35$

f $\boxed{8} \times 5 = 40$



$3 \times 5 = 15$



$5 \times 3 = 15$

Turnaround facts are the times tables turned around!



REMEMBER

4 Complete the 5 times table turnarounds.

a $5 \times 8 = \boxed{40}$

b $5 \times 3 = \boxed{15}$

c $5 \times 10 = \boxed{50}$

d $5 \times 4 = \boxed{20}$

Multiplication facts – 5 and 10 times tables

5 Answer the 10 times table:

$$1 \times 10 = \boxed{10}$$

$$2 \times 10 = \boxed{20}$$

$$3 \times 10 = \boxed{30}$$

$$4 \times 10 = \boxed{40}$$

$$5 \times 10 = \boxed{50}$$

$$6 \times 10 = \boxed{60}$$

$$7 \times 10 = \boxed{70}$$

$$8 \times 10 = \boxed{80}$$

$$9 \times 10 = \boxed{90}$$

$$10 \times 10 = \boxed{100}$$

6 Write the missing numbers for these 5 times table facts:

a $\boxed{7} \times 5 = 35$

b $5 \times 5 = \boxed{25}$

c $\boxed{6} \times 5 = 30$

d $5 \times \boxed{9} = 45$

e $\boxed{3} \times 5 = 15$

f $5 \times \boxed{2} = 10$

g $5 \times \boxed{4} = 20$

7 Write the missing numbers for these 10 times table facts:

a $\boxed{3} \times 10 = 30$

b $10 \times 5 = \boxed{50}$

c $\boxed{2} \times 10 = 20$

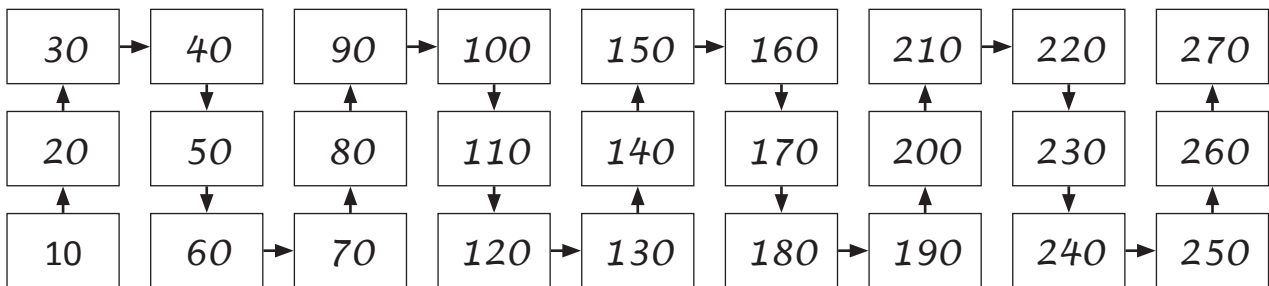
d $10 \times 9 = \boxed{90}$

e $\boxed{6} \times 10 = 60$

f $\boxed{7} \times 10 = 70$

g $10 \times 10 = \boxed{100}$

8 Follow the arrows by counting up in 10s:



9 Multiply each number in the top row by 5 and then by 10:

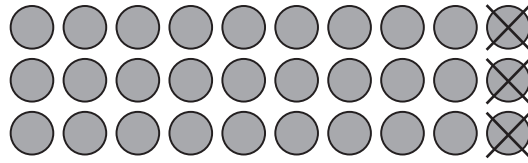
\times	2	1	4	5	9	6	8	7	10	3
5	10	5	20	25	45	30	40	35	50	15
10	20	10	40	50	90	60	80	70	100	30

What do you notice? The $\times 10$ row is double the $\times 5$ row

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.

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



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

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

$\times 10$ table	Build down by	$\times 9$ table
$1 \times 10 = 10$	1	$1 \times 9 = 9$
$2 \times 10 = 20$	2	$2 \times 9 = 18$
$3 \times 10 = 30$	3	$3 \times 9 = 27$
$4 \times 10 = 40$	4	$4 \times 9 = 36$
$5 \times 10 = 50$	5	$5 \times 9 = 45$
$6 \times 10 = 60$	6	$6 \times 9 = 54$
$7 \times 10 = 70$	7	$7 \times 9 = 63$
$8 \times 10 = 80$	8	$8 \times 9 = 72$
$9 \times 10 = 90$	9	$9 \times 9 = 81$
$10 \times 10 = 100$	10	$10 \times 9 = 90$

2 Complete the $\times 9$:

\times	2	6	4	8	3	9	10	5	7
9	18	54	36	72	27	81	90	45	63

Using known facts – factors and multiples

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

$$1 \times 2 = 2$$

$$2 \times 2 = 4$$

$$3 \times 2 = 6$$

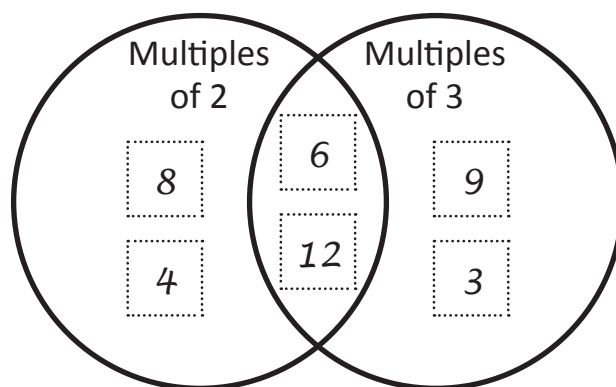
5, 10, 15, 20, 25, 30, 35, 40, 45, 50 are the first 10 multiples of 5.

1 List the first ten multiples of each number:

a	6	6	12	18	24	30	36	42	48	54	60
b	2	2	4	6	8	10	12	14	16	18	20
c	10	10	20	30	40	50	60	70	80	90	100
d	3	3	6	9	12	15	18	21	24	27	30
e	4	4	8	12	16	20	24	28	32	36	40

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

8 4 9 6 12 3



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



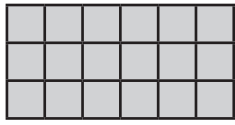
THINK

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

Sample answers: 18, 24, 30, 36, 48, 54, 60

Using known facts – factors and multiples

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



$$3 \times 6 = 18$$



$$2 \times 9 = 18$$

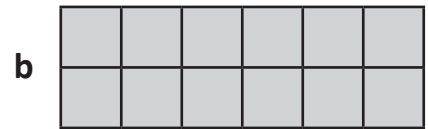
These arrays show some of the factors of 18: 3, 6, 2 and 9.

Can you think of any other factors of 18?

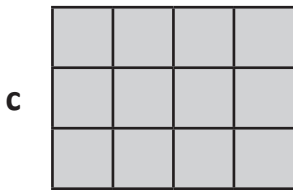
1 Complete the number sentence for each set of arrays and then list the factors.



$$1 \times 12 = 12$$



$$2 \times 6 = 12$$

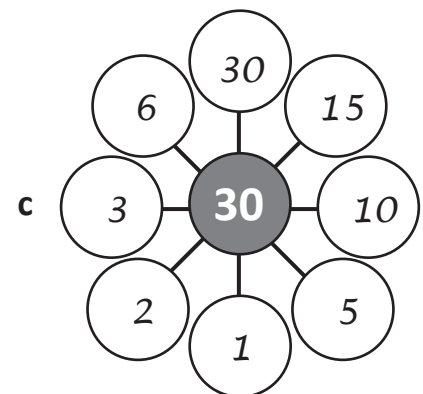
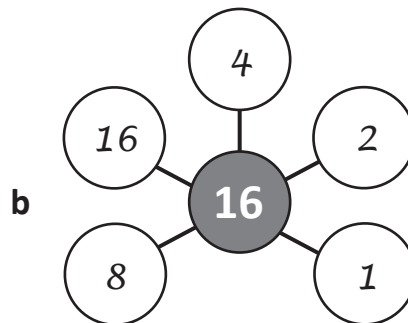
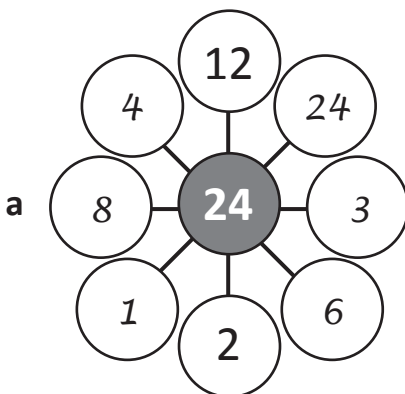


$$3 \times 4 = 12$$

d The factors of 12 are:

1, 12, 2, 6, 3 and 4

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



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
4	5	0	0

× 10
× 100

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

a

Th	H	T	U
		1	5
	1	5	0
1	5	0	0

× 10
× 100

b

Th	H	T	U
		4	8
	4	8	0
4	8	0	0

× 10
× 100

c

Th	H	T	U
		7	2
	7	2	0
7	2	0	0

× 10
× 100



Can you see a pattern in each of the tables?

2 Use patterns to solve these:

a $14 \times 1 = 14$ $14 \times 10 = 140$ $14 \times 100 = 1\,400$

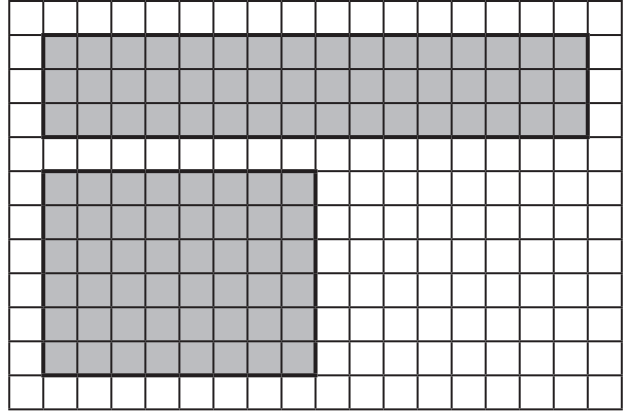
b $25 \times 1 = 25$ $25 \times 10 = 250$ $25 \times 100 = 2\,500$

c $82 \times 1 = 82$ $82 \times 10 = 820$ $82 \times 100 = 8\,200$

Mental multiplication strategies – doubling and halving

We can change the factors of a multiplication question to make it easier. Look at 16×3 . If we halve the larger factor and double the smaller factor, we make an array on the grid that is the same size. Both arrays have the same amount of squares. Count the squares, are they equal to 8×6 ?

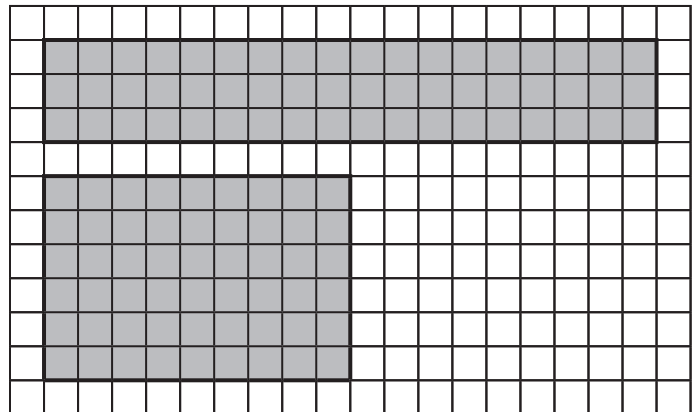
$$\begin{array}{ccc} 16 & \times & 3 \\ \downarrow & & \downarrow \\ \boxed{\text{Halve}} & & \boxed{\text{Double}} \\ 8 & \times & 6 = 48 \end{array}$$



1 Make these problems easier by using doubling and halving. Shade an array for each:

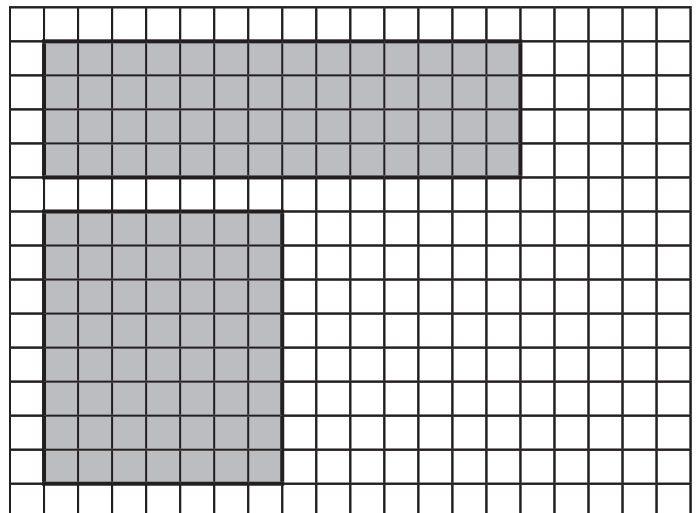
a

$$\begin{array}{ccc} 18 & \times & 3 \\ \downarrow & & \downarrow \\ \boxed{\text{Halve}} & & \boxed{\text{Double}} \\ \boxed{9} & \times & \boxed{6} = \boxed{54} \end{array}$$



b

$$\begin{array}{ccc} 14 & \times & 4 \\ \downarrow & & \downarrow \\ \boxed{\text{Halve}} & & \boxed{\text{Double}} \\ \boxed{7} & \times & \boxed{8} = \boxed{56} \end{array}$$



Mental multiplication strategies – doubling and halving

2 Use the doubling and halving strategy to solve these:

a

$$\begin{array}{ccc}
 14 & \times & 3 \\
 \downarrow & & \downarrow \\
 \boxed{\text{Halve}} & & \boxed{\text{Double}} \\
 \boxed{7} & \times & \boxed{6} = \boxed{42}
 \end{array}$$

b

$$\begin{array}{ccc}
 48 & \times & 5 \\
 \downarrow & & \downarrow \\
 \boxed{\text{Halve}} & & \boxed{\text{Double}} \\
 \boxed{24} & \times & \boxed{10} = \boxed{240}
 \end{array}$$

c

$$\begin{array}{ccc}
 16 & \times & 5 \\
 \downarrow & & \downarrow \\
 \boxed{\text{Halve}} & & \boxed{\text{Double}} \\
 \boxed{8} & \times & \boxed{10} = \boxed{80}
 \end{array}$$

d

$$\begin{array}{ccc}
 64 & \times & 5 \\
 \downarrow & & \downarrow \\
 \boxed{\text{Halve}} & & \boxed{\text{Double}} \\
 \boxed{32} & \times & \boxed{10} = \boxed{320}
 \end{array}$$

3 Follow this doubling and halving trail through to the bottom:

a Halve Double

$$\begin{array}{ccc}
 8 & \times & 56 = \boxed{?} \\
 \downarrow & & \downarrow \\
 \boxed{4} & \times & \boxed{112} \\
 \downarrow & & \downarrow \\
 \boxed{2} & \times & \boxed{224} \\
 \downarrow & & \downarrow \\
 \boxed{1} & \times & \boxed{448} \\
 \text{So, } 8 \times 56 = & \boxed{448}
 \end{array}$$

b Halve Double

$$\begin{array}{ccc}
 8 & \times & 35 = \boxed{?} \\
 \downarrow & & \downarrow \\
 \boxed{4} & \times & \boxed{70} \\
 \downarrow & & \downarrow \\
 \boxed{2} & \times & \boxed{140} \\
 \downarrow & & \downarrow \\
 \boxed{1} & \times & \boxed{280} \\
 \text{So, } 8 \times 35 = & \boxed{280}
 \end{array}$$

c Halve Double

$$\begin{array}{ccc}
 8 & \times & 45 = \boxed{?} \\
 \downarrow & & \downarrow \\
 \boxed{4} & \times & \boxed{90} \\
 \downarrow & & \downarrow \\
 \boxed{2} & \times & \boxed{180} \\
 \downarrow & & \downarrow \\
 \boxed{1} & \times & \boxed{360} \\
 \text{So, } 8 \times 45 = & \boxed{360}
 \end{array}$$

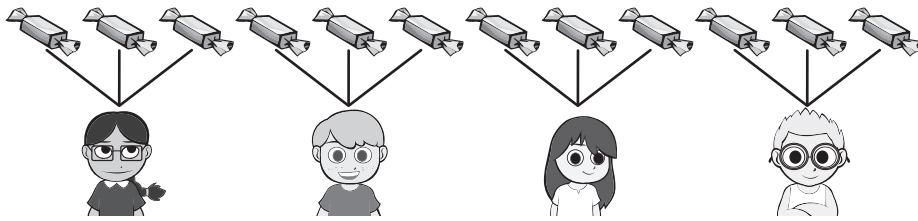
d What do you notice?

You eventually get to $\times 1$ which is the answer.

Division – division is sharing and grouping

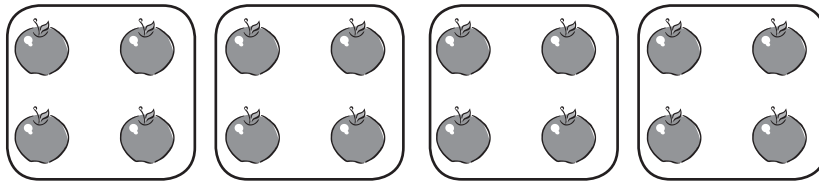
Division can mean sharing *or* grouping.

There are 12 lollies shared between 4 kids. How many are **in** each share?



$$12 \div 4 = 3$$

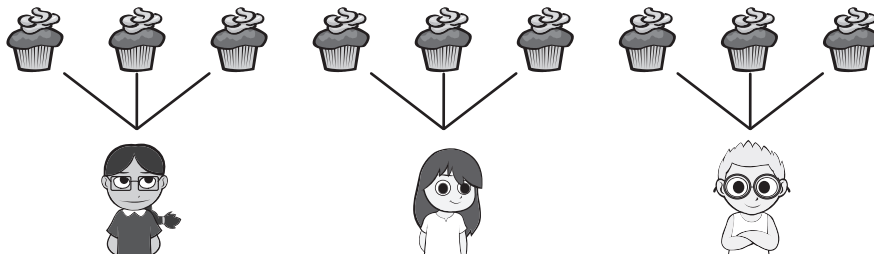
There are 16 apples and 4 go into each basket. How many baskets do I need?



$$16 \div 4 = 4$$

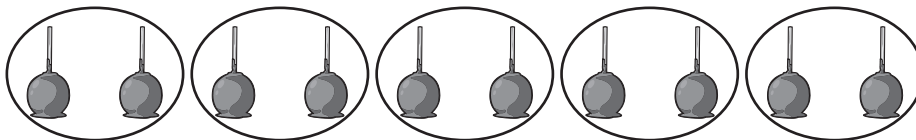
1 Solve these sharing and grouping questions:

a There are 9 cupcakes and 3 kids are sharing. How many are in each share?



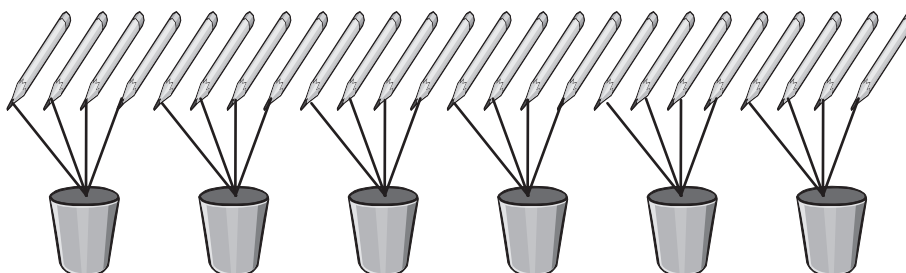
$$\boxed{9} \div \boxed{3} = \boxed{3}$$

b 12 lollies are shared between a group of kids so they each get 2. How many kids are sharing?



$$\boxed{12} \div \boxed{2} = \boxed{6}$$

c There are 24 pencils and 6 pencil pots. How many pencils go into each pencil pot?



$$\boxed{24} \div \boxed{6} = \boxed{4}$$

Division – division is sharing and grouping

- 2 Draw pictures to show these division questions. Then write the division fact and decide whether it is a sharing or a grouping question.

If you need to find out how many items there are in each share, it's a sharing question. If you need to find out the number of equal shares, it's a grouping question.



CHECK

- a Divide 16 lollies between 4 girls. How many does each girl get?

Drawings will vary.

$$\boxed{16} \div \boxed{4} = \boxed{4}$$

sharing / grouping

- b From a packet of 24 pencils, each person will get 6. How many people are sharing the pencils?

Drawings will vary.

$$\boxed{24} \div \boxed{6} = \boxed{4}$$

sharing / grouping

- c 48 eggs are laid by 6 hens. If they all laid the same amount, how many did each hen lay?

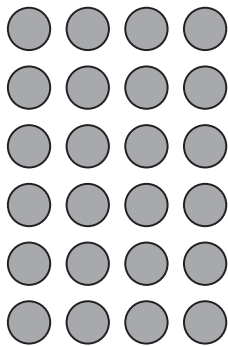
Drawings will vary.

$$\boxed{48} \div \boxed{6} = \boxed{8}$$

sharing / grouping

Division – linking multiplication and division facts

Knowing multiplication facts will help with division facts. This is because they are opposites. Look at how we can describe this array:



$6 \times 4 = 24$

6 groups of 4 is 24.

$4 \times 6 = 24$

4 groups of 6 is 24.

$24 \div 4 = 6$

24 divided into 4 shares is 6.

$24 \div 6 = 4$

24 divided into 6 shares is 4.

1 Describe each of these arrays using two multiplication and two division facts:

a

$$\begin{array}{l} \boxed{3} \times \boxed{4} = \boxed{12} \\ \boxed{4} \times \boxed{3} = \boxed{12} \\ \boxed{12} \div \boxed{4} = \boxed{3} \\ \boxed{12} \div \boxed{3} = \boxed{4} \end{array}$$

b

$$\begin{array}{l} \boxed{5} \times \boxed{3} = \boxed{15} \\ \boxed{3} \times \boxed{5} = \boxed{15} \\ \boxed{15} \div \boxed{3} = \boxed{5} \\ \boxed{15} \div \boxed{5} = \boxed{3} \end{array}$$

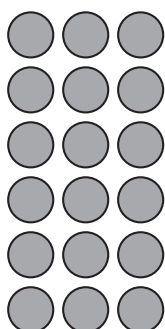
c

$$\begin{array}{l} \boxed{7} \times \boxed{4} = \boxed{28} \\ \boxed{4} \times \boxed{7} = \boxed{28} \\ \boxed{28} \div \boxed{4} = \boxed{7} \\ \boxed{28} \div \boxed{7} = \boxed{4} \end{array}$$

d

$$\begin{array}{l} \boxed{9} \times \boxed{4} = \boxed{36} \\ \boxed{4} \times \boxed{9} = \boxed{36} \\ \boxed{36} \div \boxed{4} = \boxed{9} \\ \boxed{36} \div \boxed{9} = \boxed{4} \end{array}$$

2 Draw an array of 6 rows of 3 then describe it with multiplication and division facts.



$$\begin{array}{l} \boxed{6} \times \boxed{3} = \boxed{18} \\ \boxed{3} \times \boxed{6} = \boxed{18} \\ \boxed{18} \div \boxed{3} = \boxed{6} \\ \boxed{18} \div \boxed{6} = \boxed{3} \end{array}$$

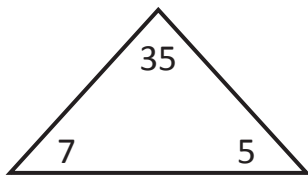
This is also called a fact family. ✨

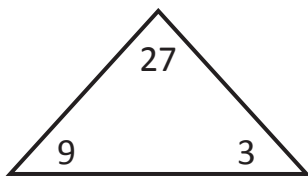


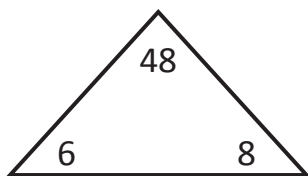
REMEMBER

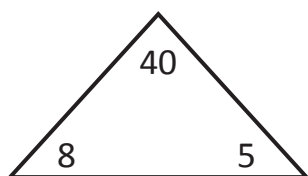
Division – linking multiplication and division facts

3 Write a fact family for each set of numbers in the triangle. The first one has been done for you.

a $5 \times 7 = 35$  $35 \div 5 = 7$
 $7 \times 5 = 35$ $35 \div 7 = 5$

b $3 \times 9 = 27$  $27 \div 3 = 9$
 $9 \times 3 = 27$ $27 \div 9 = 3$

c $8 \times 6 = 48$  $48 \div 8 = 6$
 $6 \times 8 = 48$ $48 \div 6 = 8$

d $5 \times 8 = 40$  $40 \div 5 = 8$
 $8 \times 5 = 40$ $40 \div 8 = 5$

4 For these problems, think of a multiplication fact to help write the division fact:

a £25 is shared between 5 people. How much does each person get?

$5 \times 5 = 25$ $25 \div 5 = \text{£}5$

b 45 people get into 9 cars. How many people are in each car?

$9 \times 5 = 45$ $45 \div 9 = 5$