

a

Put the following numbers in order from smallest to largest:

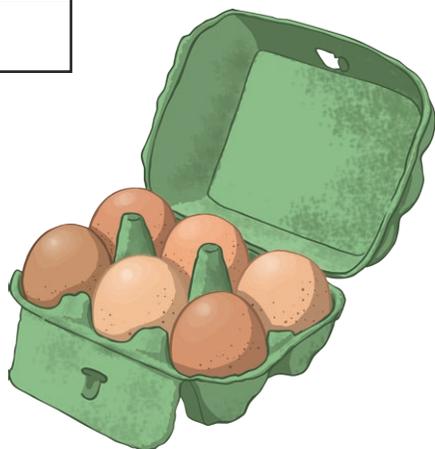
-7, 18, 0, -20, 5

$\frac{3}{4}$, $\frac{1}{8}$, $\frac{1}{4}$, $\frac{1}{2}$

b

It takes 6 eggs to make enough cake for 14 people.

How many eggs will be needed to make enough cake for 21 people?



c

Write as a decimal:

$\frac{3}{10}$

85%

d

Evaluate:

$2 \times 3 + 3 \times 7 =$

$8 + (2 + 3) \times 4 =$

e

I think of a number, multiply it by 2, subtract 4 then divide by 3.

The result is 8.

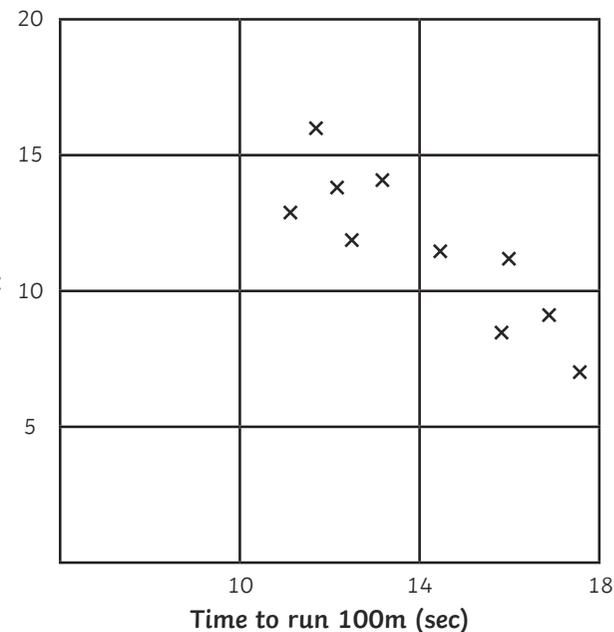
What number did I first think of?

f

The scatter graph shows the time spent training and the time taken to run 100m for 10 members of The Whippets Running Club.

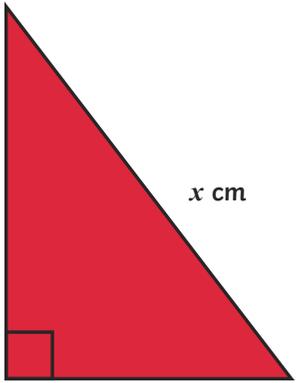
Describe the correlation shown.

Hours per week spent training



a

Using Pythagoras' Theorem, find the value of x .



$x =$

b

$-3 - 8 =$

$10 - -3 =$

$-3 \times -2 =$

c

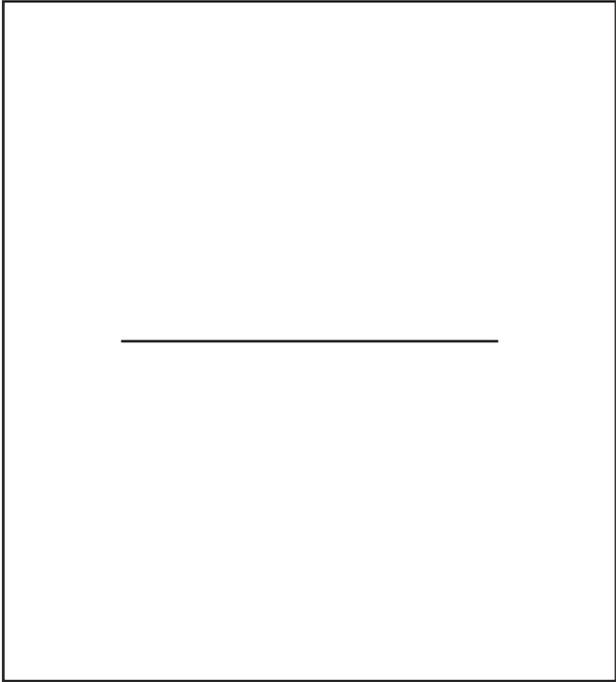
Give your answers as fully simplified fractions:

$\frac{2}{5} + 1\frac{1}{5} =$

$1\frac{1}{3} - \frac{1}{6} =$

d

Use a pair of compasses and ruler to construct the perpendicular bisector of this line. Do not erase your construction lines.



e

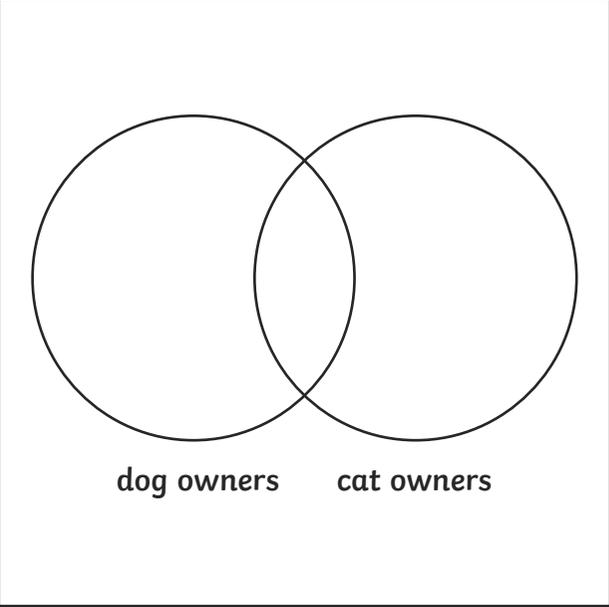
$0.3 + 0.17 =$

$0.5 - 0.12 =$

f

There are 30 children in 9C at Yulurn Hir School. 12 of them have a dog. 11 of them have no cat or dog. 8 of them have cats.

Show this information on the Venn Diagram.



a

Place the correct sign, > or < between each pair of numbers

0.6 0.35

0.18 0.8

c

Write as a fully simplified fraction:

25%

0.3

e

Find the mean, mode, median and range of the following numbers:

3, 4, 8, 2, 1, 4, 5, 1

mean

mode

median

range

b

From this list of numbers:
8, 9, 10, 11, 12, 13, 14, 15, 16

Give:

a square number

a cube number

a multiple of 6

a factor of 16

a prime number

a triangular number

d

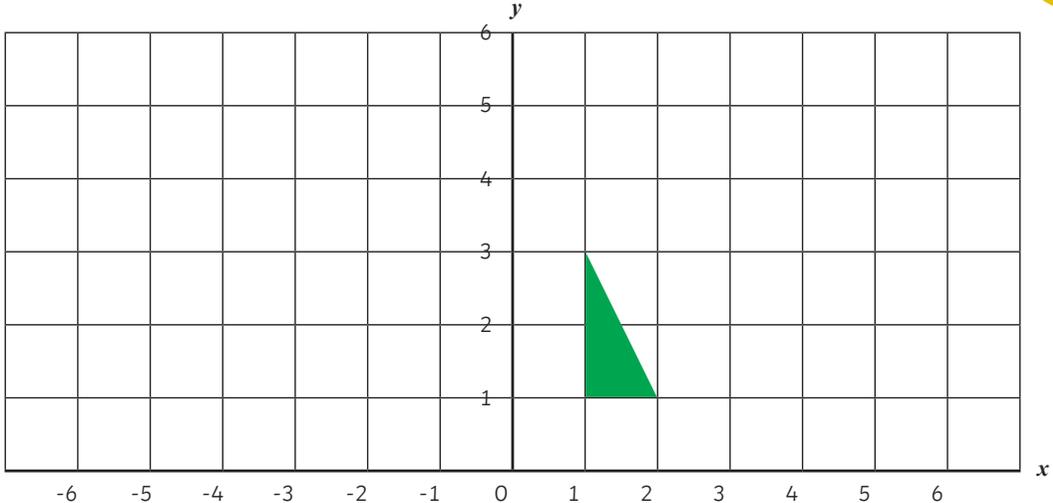
$3^3 =$

$2^4 =$

f

Translate the shaded triangle 6 places left and 2 up.

Rotate the shaded triangle around the point (0,0) 90° in an anti-clockwise direction.



Round 34 349 to the nearest ten thousand. **a**

Round 3.4654 correct to 1 decimal place.

There are some green, red, yellow and blue crayons in a box. The table shows the probability of taking each green, red and yellow when a crayon is picked at random from the box. **d**

What is the probability that a blue is picked?

Colour	Green	Red	Yellow	Blue
Probability	0.3	0.1	0.4	

4.2kg = g **b**

5cm = m

When $x = 5$ and $y = 3$, evaluate: **e**

xy

$2x + 3y$

Evaluate, giving your answers as fully simplified fractions or mixed numbers: **f**

$\frac{3}{5} \times \frac{2}{3} =$

$\frac{3}{4} \div \frac{9}{16} =$

Fully simplify: **c**

$4a + 2b + 3a - b =$

a

Increase £40 by 20%.

b

You can buy 16 mini gingerbread men for 96p at Pixie's Bakery. At Elvis's Bakery you can buy 5 for 34p.

Which bakery offers better value for money?
Show all of your working.



c

ABC is a straight line, $BD = CD$, angle $BDC = 40^\circ$.

Find the value of x . Give reasons for your answer.

$x =$

d

A cuboid has length 40cm, width 35cm and height 1m. What is its volume?

e

What is the probability that, when 2 coins are tossed, both will land on head?

f

Simplify the ratio 6:10.

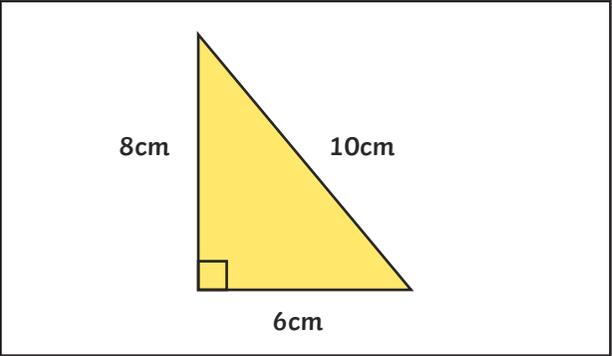
Annie and Billy share £25 in the ratio 2:3.
How much money does each get?

Annie: Billy:

a
Find the highest common factor of 8 and 12.

b
Find the area and the perimeter of this triangle.

Area: Perimeter:



c
Simplify:

$2^3 \times 2^5 =$

$\frac{2^9}{2^3} =$

d
4, 8, 12, 16, ...

What is the term to term rule in this sequence?

What is the 30th term in the sequence?

e
3, 9, 27, 81, ...

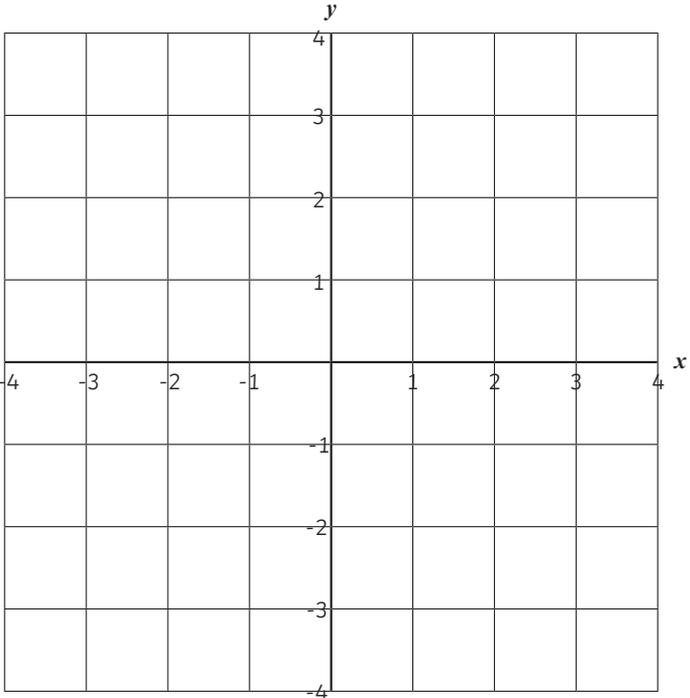
What is the term to term rule in this sequence?

What is the next term?

f
On the axes below, draw the graph of :

a) $y = 3$

b) $x = -2$



a

Put the following numbers in order from smallest to largest:

-7, 18, 0, -20, 5

-20, -7, 0, 5, 18

$\frac{3}{4}$, $\frac{1}{8}$, $\frac{1}{4}$, $\frac{1}{2}$

$\frac{1}{8}$, $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$

c

Write as a decimal:

$\frac{3}{10}$ **0.3**

85% **0.85**

d

Evaluate:

$2 \times 3 + 3 \times 7 =$ **27**

$8 + (2 + 3) \times 4 =$ **28**

e

I think of a number, multiply it by 2, subtract 4 then divide by 3.

The result is 8.

What number did I first think of? **14**

b

It takes 6 eggs to make enough cake for 14 people.

How many eggs will be needed to make enough cake for 21 people?

9 eggs

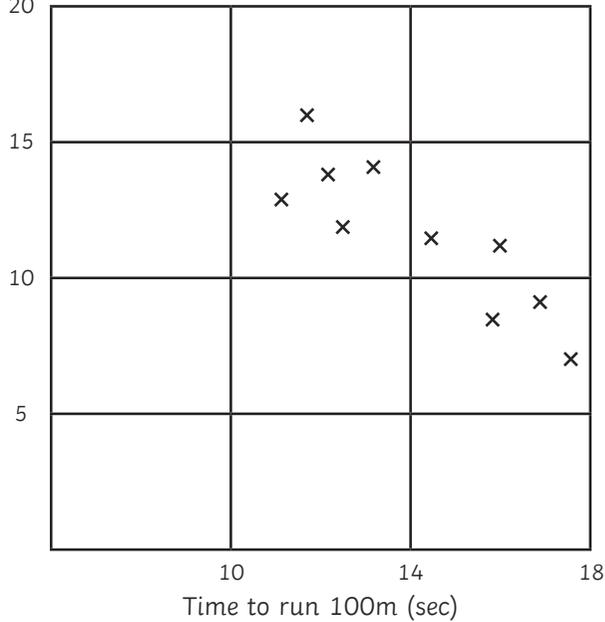


f

The scatter graph shows the time spent training and the time taken to run 100m for 10 members of The Whippets Running Club.

Describe the correlation shown.

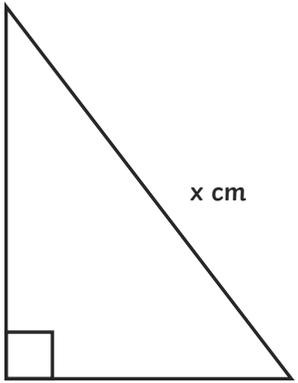
Negative correlation



Time to run 100m (sec)	Hours per week spent training
11	16
12	13
13	14
14	12
15	11
16	9
17	10
18	7
12	12
13	11

a

Using Pythagoras' Theorem, find the value of x .



$x =$ 5cm

c

Give your answers as fully simplified fractions:

$\frac{2}{5} + 1\frac{1}{5} =$ $1\frac{3}{5}$

$1\frac{1}{3} - \frac{1}{6} =$ $1\frac{1}{6}$

e

$0.3 + 0.17 =$ 0.47

$0.5 - 0.12 =$ 0.38

b

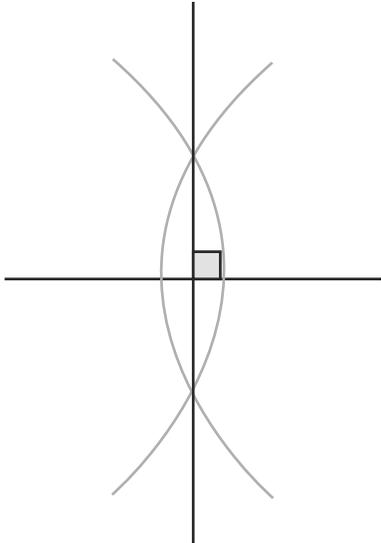
$-3 - 8 =$ -11

$10 - -3 =$ 13

$-3 \times -2 =$ 6

d

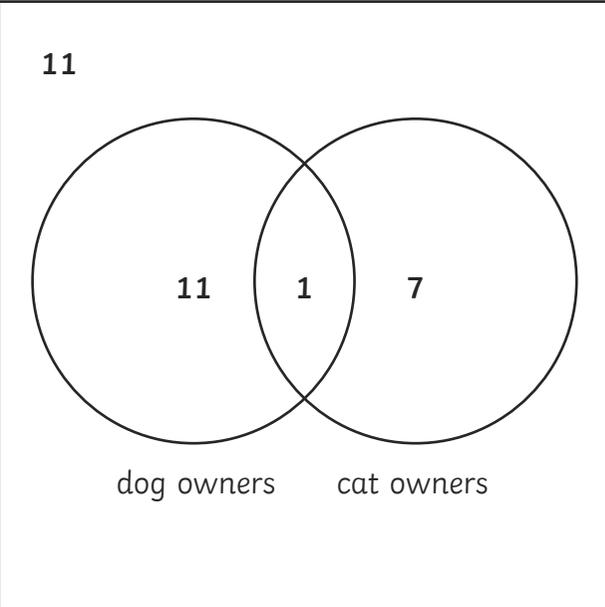
Use a pair of compasses and ruler to construct the perpendicular bisector of this line. Do not erase your construction lines.



f

There are 30 children in 9C at Yulurn Hir School. 12 of them have a dog. 11 of them have no cat or dog. 8 of them have cats.

Show this information on the Venn Diagram.



Place the correct sign, $>$ or $<$ between each pair of numbers

0.6 0.35

0.18 0.8

Write as a fully simplified fraction:

25%

0.3

Find the mean, mode, median and range of the following numbers:

3, 4, 8, 2, 1, 4, 5, 1

mean

mode

median

range

From this list of numbers:

8, 9, 10, 11, 12, 13, 14, 15, 16

Give:

a square number

a cube number

a multiple of 6

a factor of 16

a prime number

a triangular number

$3^3 =$

$2^4 =$

Translate the shaded triangle 6 places left and 2 up.

Rotate the shaded triangle around the point (0,0) 90° in an anti-clockwise direction.

Triangle with vertices at (-5,5) (-5,3) (-4,3)

Triangle with vertices at (-1,2) (-1,1) (-3,1)

Round 34 349 to the nearest ten thousand. **a**

30 000

Round 3.4654 correct to 1 decimal place.

3.5

There are some green, red, yellow and blue crayons in a box. The table shows the probability of taking each green, red and yellow when a crayon is picked at random from the box. **d**

What is the probability that a blue is picked?

Colour	Green	Red	Yellow	Blue
Probability	0.3	0.1	0.4	0.2

4.2kg = 4200g **b**

5cm = 0.05m

When $x = 5$ and $y = 3$, evaluate: **e**

xy 15

$2x + 3y$ 19

Evaluate, giving your answers as fully simplified fractions or mixed numbers: **f**

$$\frac{3}{5} \times \frac{2}{3} = \frac{2}{5}$$

$$\frac{3}{4} \div \frac{9}{16} = 1 \frac{1}{3}$$

Fully simplify: **c**

$4a + 2b + 3a - b = 7a + b$

a

Increase £40 by 20%. £48

b

You can buy 16 mini gingerbread men for 96p at Pixie's Bakery. At Elvis's Bakery you can buy 5 for 34p.

Which bakery offers better value for money?
Show all of your working.

Pixie's Bakery

6p per gingerbread man at Pixie's.

So 5 gingerbread men would cost 30p at Pixie's.



c

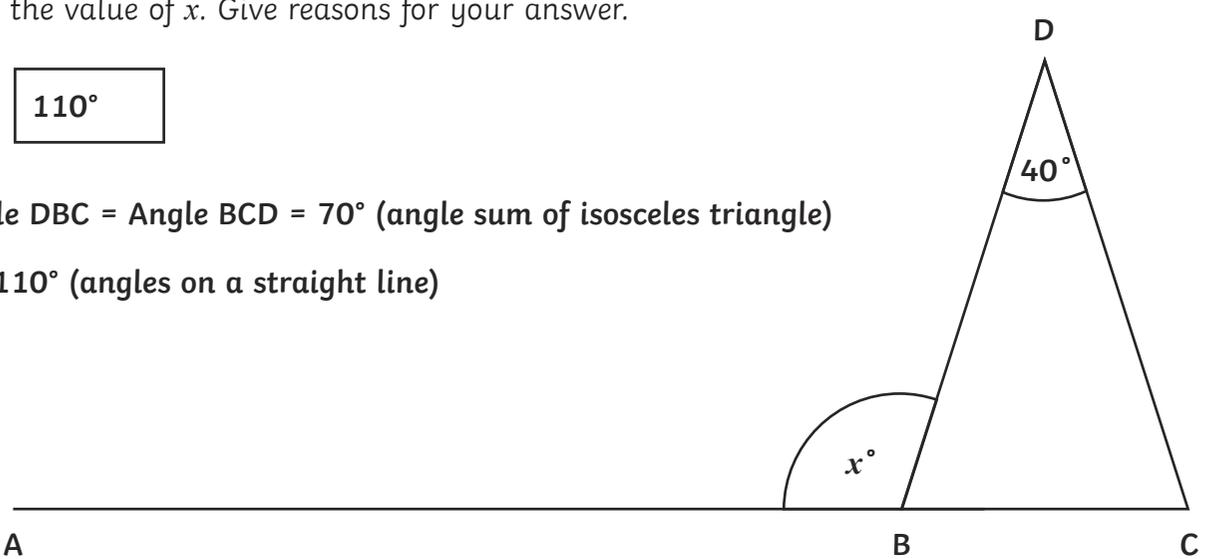
ABC is a straight line, $BD = CD$, angle $BDC = 40^\circ$.

Find the value of x . Give reasons for your answer.

$x =$ 110°

Angle $DBC = \text{Angle } BCD = 70^\circ$ (angle sum of isosceles triangle)

$x = 110^\circ$ (angles on a straight line)



d

A cuboid has length 40cm, width 35cm and height 1m. What is its volume?

$140\ 000\text{cm}^3$

e

What is the probability that, when 2 coins are tossed, both will land on head?

$\frac{1}{4}$

f

Simplify the ratio 6:10.

3:5

Annie and Billy share £25 in the ratio 2:3. How much money does each get?

Annie: £10 Billy: £15

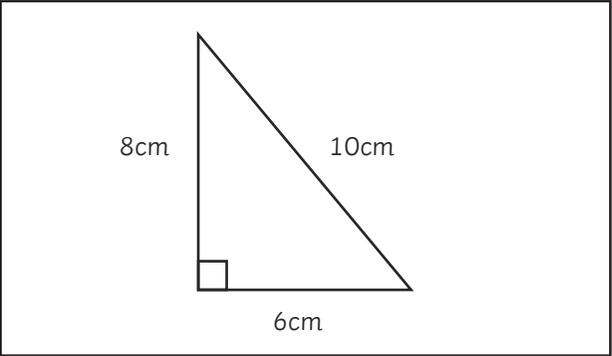
a

Find the highest common factor of 8 and 12.

b

Find the area and the perimeter of this triangle.

Area: Perimeter:



c

Simplify:

$2^3 \times 2^5 =$

$\frac{2^9}{2^3} =$

d

4, 8, 12, 16, ...

What is the term to term rule in this sequence?

What is the 30th term in the sequence?

e

3, 9, 27, 81, ...

What is the term to term rule in this sequence?

What is the next term?

f

On the axes below, draw the graph of :

a) $y = 3$

b) $x = -2$

