1st April **Foundation Plus 5-a-day**

Corbettmaths

Solve $3(2x - 6) = 12$

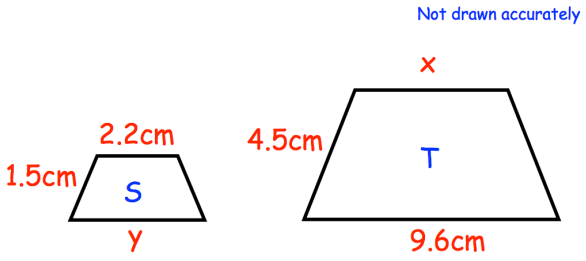
10 apples and 5 bananas cost £4.20

8 apples and 10 bananas cost £5.40

Find the cost of each type of fruit.

Work out

$$\left(\frac{2}{3}\right)^{-2}$$



Trapezium S and trapezium T are similar.

Find the size of x.

Write down the exact value of Sin 60°

Write down the exact value of Sin 45°

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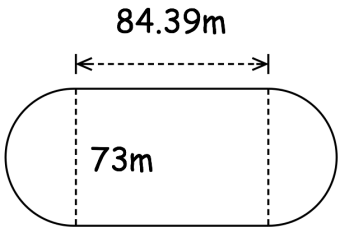
2nd April **Foundation Plus 5-a-day**

Corbettmaths

Expand and simplify

$5(3x + 2) + 4(x + 9)$

Find the area inside the running track.

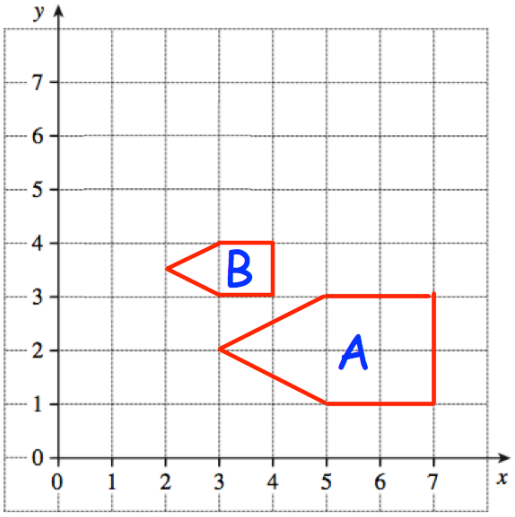


Here are the equations of four lines.

Line 1 $2y = 8x + 6$
Line 2 $x + y = 6$
Line 3 $4x - y = 5$
Line 4 $4x + 2y = 1$

Two of the lines are parallel.

Which lines?



Describe fully the single transformation that maps shape A onto shape B.

Reflect B in the mirror line $x = 5$

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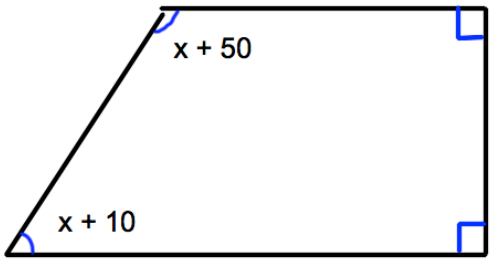
3rd April	Foundation Plus 5-a-day
Factorise fully $4mn - 16m^2$	
	Calculate the size of the largest angle in the trapezium.
Work out $\frac{3 \times 10^6}{5 \times 10^2}$ write your answer in standard form	
The nth term of a sequence is $2n^2 - 1$ Work out the difference between the 10th and 20th terms of the sequence.	
Megan has 102 books. This number of books is 70% more than the number she had last month. How many books did Megan have last month?	

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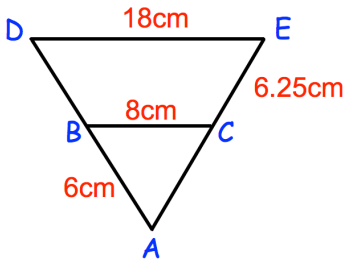
4th April	Foundation Plus 5-a-day
A circle has area 40cm². Find the diameter.	
Show that an increase of 10% followed by an increase of 10% is equivalent to a 21% increase overall.	
Not drawn accurately  	Triangle *ABC* is similar to triangle *ADE.* Work out the length of AC.
Solve $\frac{w}{4} = 35 - w$	
w is greater than 1. Write in order, from smallest to largest	w^0 w^3 $\frac{w^3}{w^4}$ w^{-2}

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5th April **Foundation Plus 5-a-day**

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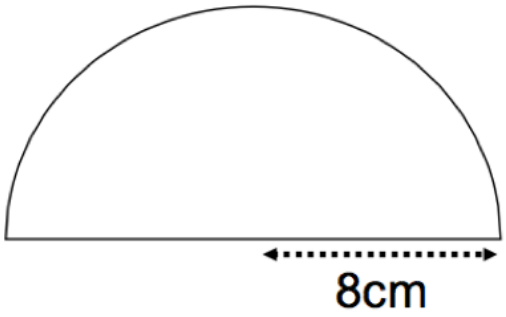
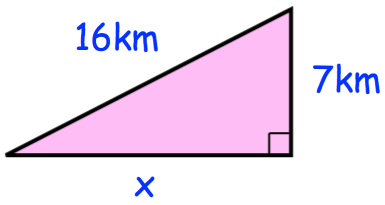


Find the area of the semi-circle.
Leave your answer in terms of π.



Calculate x
Give your answer to 2 decimal places.

Mass	Frequency
$20 < m \leq 25$	12
$25 < m \leq 30$	24
$30 < m \leq 35$	17
$35 < m \leq 40$	15
$40 < m \leq 45$	4

Calculate an estimate for the mean.

Work out

$(9 \times 10^4)^2$

At a show

4 adult tickets and 1 child ticket cost £33

2 adult tickets and 7 child tickets cost £36

Work out the cost of 10 adult tickets and 20 child tickets.

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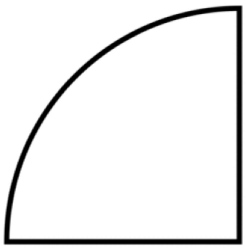
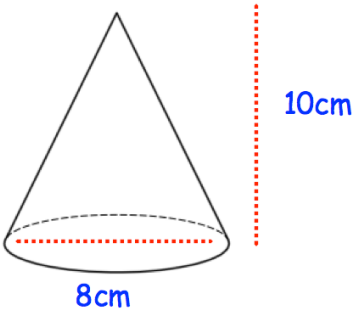
6th April	Foundation Plus 5-a-day
Find the perimeter of this quarter circle.	
Simplify $\frac{4^5 \times 4^6}{4^3}$	
	Calculate the volume of the cone
3.6 has been rounded to one decimal place. Write down the error interval.	
Finn has some sweets in a bag. 5 of the sweets are lemon. 7 of the sweets are strawberry. The rest of the sweets are mint. The probability that Finn takes a mint flavoured sweet is $\frac{2}{5}$	How many mint flavoured sweets are in the bag?

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7th April **Foundation Plus 5-a-day**

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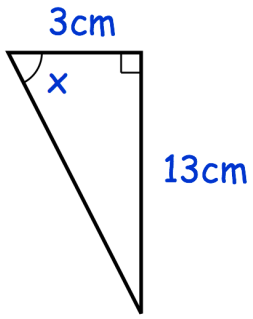
Expand and simplify

$(w + 4)(w + 9)$

Find the size of angle x



Matthew is training for a race.
He runs 3 days in one week.

Matthew runs $1\frac{1}{2}$ miles on Monday.

Then he runs $1\frac{2}{3}$ miles on Thursday.

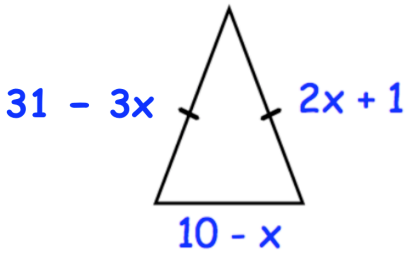
Finally he runs $2\frac{1}{5}$ miles on Sunday.

Work out how far Matthew ran in total.

$\mathbf{a} = \begin{pmatrix} 3 \\ -1 \end{pmatrix}$ $\mathbf{b} = \begin{pmatrix} 1 \\ -2 \end{pmatrix}$

Work out 3**a** + 3**b**

Find the perimeter of the isosceles triangle



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8th April **Foundation Plus 5-a-day**

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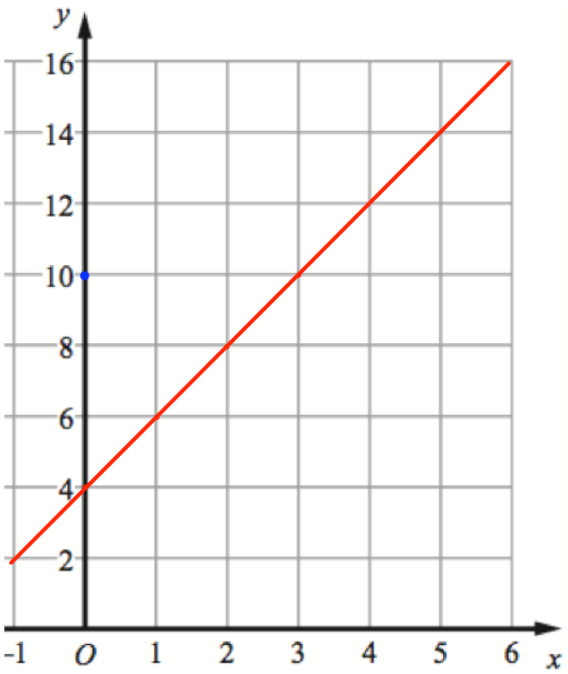
Truncate 5.3867 to 2 decimal places



Find the gradient of the line shown.

Write down the equation of the line shown.

What is the sum of the interior angles for a decagon?

What is the size of each interior angle for a regular decagon?

In a sale, normal prices are reduced by 15%.
The sale price of a coat is £136

Work out the normal price of the coat.

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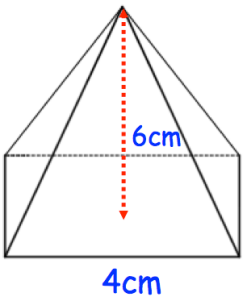
9th April	Foundation Plus 5-a-day
Solve using simultaneous equations. $5x + 3y = 41$ $2x + 3y = 20$	
Factorise $y^2 - 36$	
The nth term of a sequence is 6n – 4 The nth term of another sequence is 10n + 2	Find the numbers, less than 100, that are in both sequences
	Find the volume of the square based pyramid
A car was bought for £10000. Its value depreciated by 20% each year for the first three years. What was its value at the end of the three years?	

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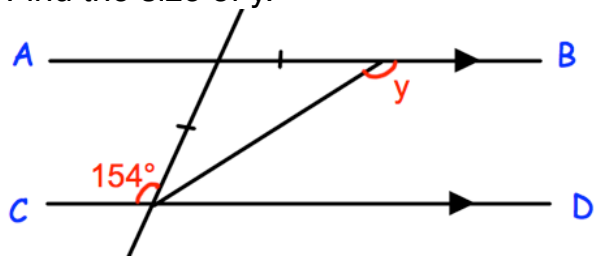
10th April	Foundation Plus 5-a-day
Factorise $y^2 + 14y + 48$	Factorise $9y^2 - 1$
Express as a single power of y. $(y^5 \times y^6)^2$	
Find the size of y. 	
Write down the gradient of the line with equation $y = 3x - 4$	Write down the gradient of the line with equation $x + y = 8$
The population of the United Kingdom in 1950 was 5.06×10^7 The population of the United Kingdom in 2020 was 6.79×10^7 Work out how many more people live in the United Kingdom in 2020 than in 1950.	

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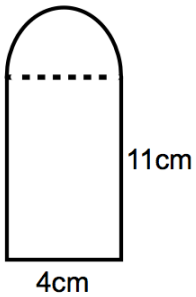
11th April	**Foundation Plus 5-a-day**
Write 4240000 in standard form	Write 2 million in standard form.
Imran leaves £3000 in the bank for two years. It earns compound interest of 2% per year. Calculate the total amount Imran has in the bank at the end of the two years.	
Solve $y^2 + 7y + 10 = 0$	
	Shown is a compound shape made from a rectangle and semi-circle. Calculate the area of the shape.
$\mathbf{a} = \begin{pmatrix} -4 \\ -1 \end{pmatrix}$ $\mathbf{b} = \begin{pmatrix} 5 \\ 3 \end{pmatrix}$	Work out the vector **a** – **b**

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12th April **Foundation Plus 5-a-day**

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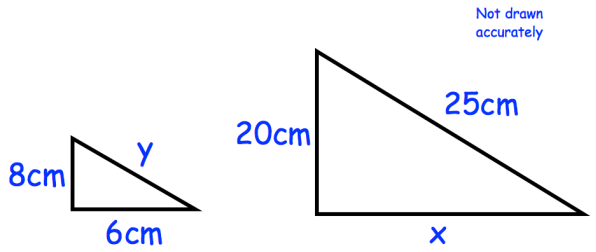
Work out

$$4\frac{3}{10} - 2\frac{5}{9}$$

Write 390000000 in standard form.

Write 3.1×10^{-5} as an ordinary number.



Shown below are two similar triangles.

Find the size of x.

4.823 has been truncated to three decimal places.

Write down an inequality to show the range of possible actual values.

Below are the first two terms of a geometric sequence.

4 8 __ __ __

Find the next three terms

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13th April **Foundation Plus 5-a-day**

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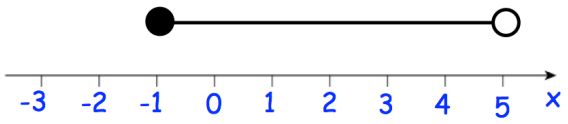
Factorise

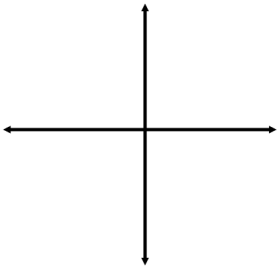
$x^2 + 3x - 10$

Factorise

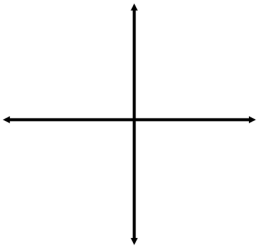
$x^2 - 3x - 4$



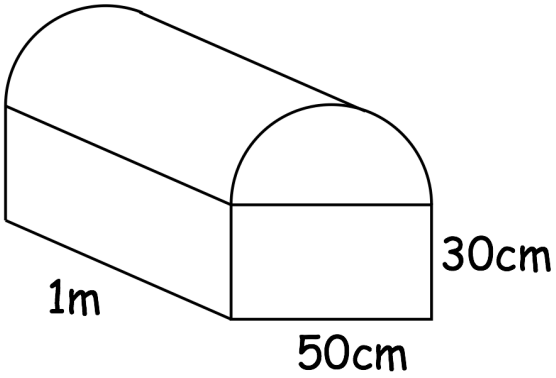
Write the inequality shown



Sketch $y = x^3$



Sketch $y = \frac{1}{x}$ where x ≠ 0



Shown above is a prism that is 1m long.

The cross-section of the prism is a semi-circle above a rectangle.

Calculate the volume of the prism.
Give your answer correct to 1 decimal place.

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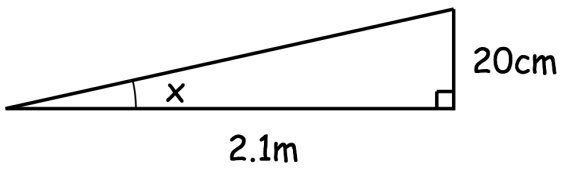
14th April	Foundation Plus 5-a-day
Solve the simultaneous equations $3x + y = 19$ $2x + 3y = 8$	
Solve $3 < 2x + 1 < 19$	
What is the mass of an object which has a volume of $120cm^3$ and a density of $6g/cm^3$?	
A ramp is 2.1m long and 20cm high.  	Calculate the size of angle x.
Given $\frac{5}{6} : 2 = x : 1$ find the value of x	

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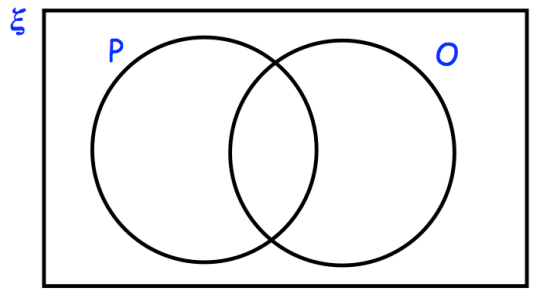
15th April	Foundation Plus 5-a-day
Solve $5x + 1 \leq 6.5$	
Expand and simplify $(y + 2)(y + 1)$	
Beth and Rosie are reading books. Beth's book has 120 pages. Rosie read $\frac{7}{10}$ of her book on Monday. On Tuesday she read the other 42 pages to finish her book.	Find the ratio number of pages in Beth's book : number of pages in Rosie's book
	ξ = {1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13} O = Odd numbers P = Prime numbers Complete the Venn diagram
A number is chosen at random Find P(O ∪ P)	A number is chosen at random Find P(O ∩ P)

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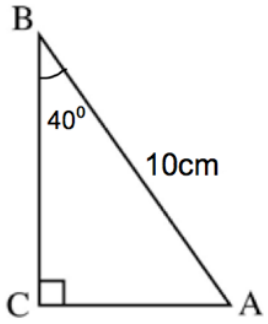
16th April	Foundation Plus 5-a-day
The sum of the interior angles in a polygon is 7380° Calculate the number of sides the polygon has.	
Solve $x^2 - 3x - 10 = 0$	
	Find the size of AC.
The number of visitors to a museum fell by 8% from March to April. In April, 51520 people visited the museum. How many people visited the museum in March?	
Work out $3^4 \times 9^{-2}$	

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17th April **Foundation Plus 5-a-day**

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The table shows the ages of an under-21 rugby squad.

Age	Frequency
18	5
19	5
20	9
21	4

Find the median age

Calculate

$$\sqrt{4.7^2 + 2.55}$$

Give your answer to 1 significant figure

Sarah is x years old.
Thomas is 9 years older than Sarah.
Dan is three times as old as Sarah.
The total of their ages is 94.

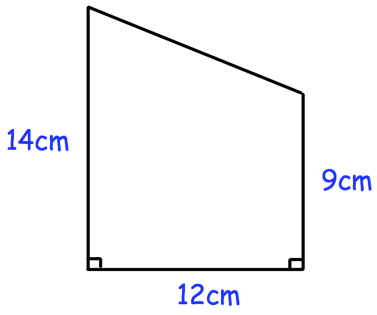
How old is Dan?

Write down the equation of the line that

is parallel to $y = \frac{1}{2}x + 3$ and

passes through (0, –1)

Work out the perimeter of the trapezium



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18th April **Foundation Plus 5-a-day**

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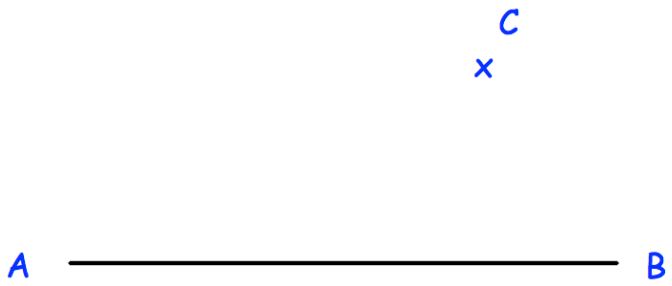
Use a ruler and compasses to construct the perpendicular from the line segment AB to the point C.



Expand and simplify

$(x + 3)^2 + (x - 1)^2$

The probability that a train arrives late is 0.3
Arlo is travelling by train on Saturday and Sunday.

Show this information on a probability tree diagram.

Calculate the probability the train is on time both days.

Calculate the probability the train is late on exactly one day.

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19th April **Foundation Plus 5-a-day**

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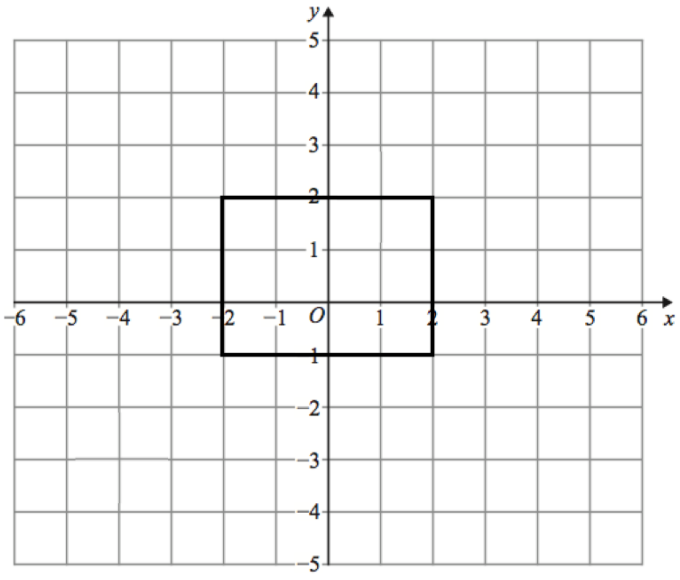
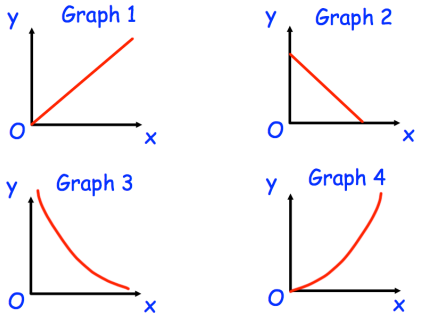
Find the lowest common multiple (LCM) of 16 and 28

Make x the subject of the formula

$$A = \sqrt[3]{\frac{4x}{5}}$$



Enlarge the rectangle by scale factor $\frac{1}{2}$, using centre of enlargement (6, 0).



One of the graphs could show that y is inversely proportional to x.

Which graph?

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20th April **Foundation Plus 5-a-day**

Corbettmaths

Nasreen, Beth and Carly go shopping.
Nasreen spend m pounds.
Beth spend twice as much as Nasreen.
Carly spend 5 pounds more than Nasreen.

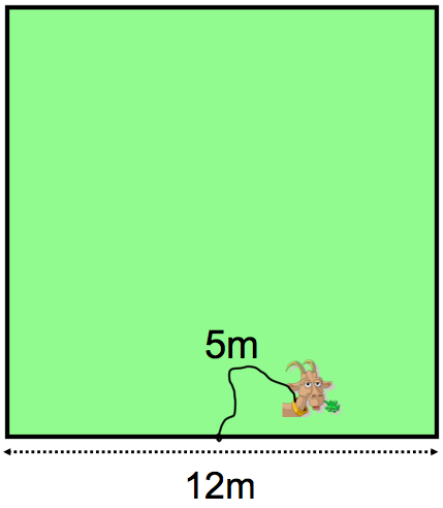
The total amount of money spent, in pounds, is more than £60.

Write down, in terms of m, an inequality to show this information.

Work out $(4.5 \times 10^7) \div (5 \times 10^{-2})$

Give your answer in standard form.

The distance from Junction 19 to Junction 20 on a motorway is 14 miles.
Bethany drove the distance in 15 minutes.
Max drove the distance at a speed of 52mph.
Who was faster?



A goat is in a square field which has length 12m.
The goat is tied to the middle of a 12m fence on one side with a 5m rope.

Solve $\frac{8x-1}{2} = 3x + 11$

Work out the percentage of the field the goat can reach.

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21st April **Foundation Plus 5-a-day**

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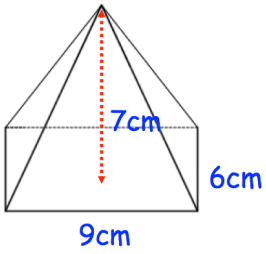

Find the volume

The time in minutes, T, taken to serve the guests at a wedding is inversely proportional to the number of waiters, w.
The time is calculated by

$$T = \frac{300}{w}$$

Work out how long it would serve the guests if there were 15 waiters.

Calculate how long it would take to serve the guests if there were 6 waiters.

Work out the difference in the time taken to serve the guests if there were 6 waiters or if there were 20 waiters.

Sally bought a piano for £2200.
In each year the value of the piano increases by 11% of its value at the start of that year.

Calculate after how many complete years the value of the piano will be at least £3200.

Solve the simultaneous equations

$$8x + 7y = 39$$
$$8x + 2y = 34$$

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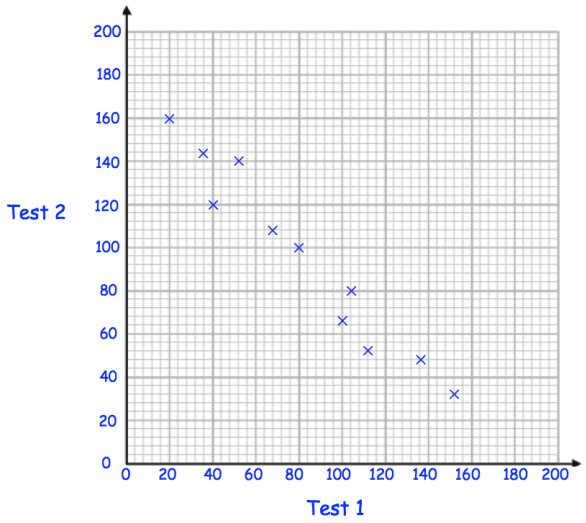
22nd April **Foundation Plus 5-a-day**

Corbettmaths

What type of correlation does this scatter graph show?



Henry scores 40 in test 2.

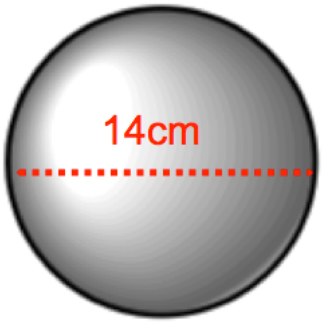
Estimate his score in test 1.

Solve $32 + 2x = -x + 5$

Find the value of

$(2.19 \times 10^8) \times (3.52 \times 10^3)$

Give your answer in standard form.



A sphere has a diameter of 14cm.

Calculate the volume of the sphere.
Give your answer to 1 decimal place.

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23rd April **Foundation Plus 5-a-day**

Corbettmaths

Write in standard form

594.112×10^{12}

Write in standard form

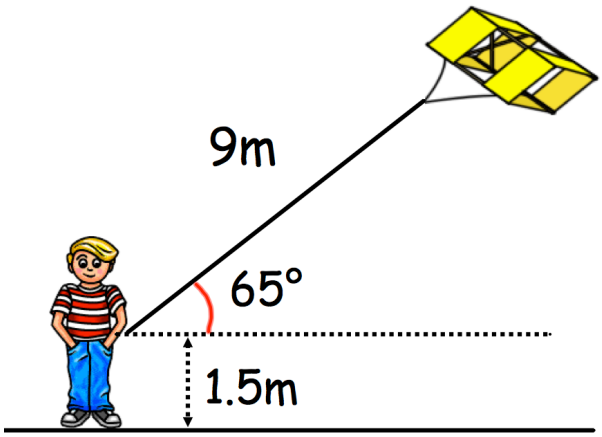
0.0007×10^{-10}

Solve

$x^2 + x - 20 = 0$

In a sale the price of a sofa is reduced by 70%.
The sale price is £255

Work out the price before the sale.



Hugo is flying a kite.

The string is held 1.5m above the ground.
The kite is on a string which is 9m long.
The string makes an angle of 65° with the horizontal.

Calculate the height of the kite above the ground.

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24th April **Foundation Plus 5-a-day**

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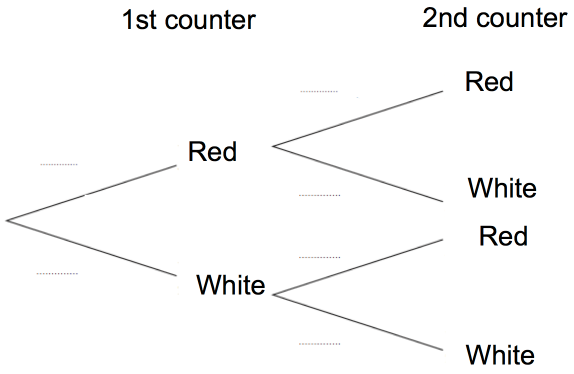
Factorise $y^2 - 25$

Factorise $x^2 - 7x + 10$



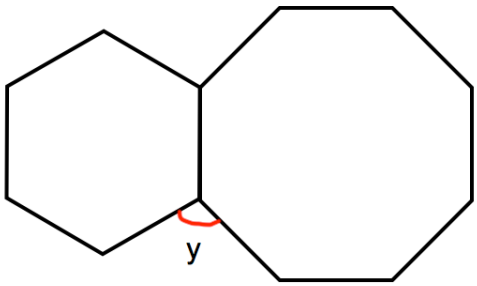
George has a bag of marbles.
There are 4 red and 2 white marbles.
George takes out a marble at random and records the colour.
George puts the marble back into the bag and then takes out another marble.

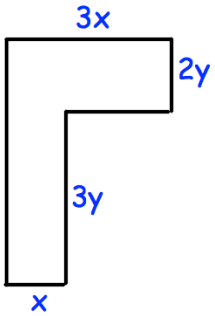
Complete the probability tree diagram.

Find the probability that the two marbles are white

Shown is a regular hexagon and regular octagon.

Find y





Find an expression for the area of the L shape.

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25th April **Foundation Plus 5-a-day**

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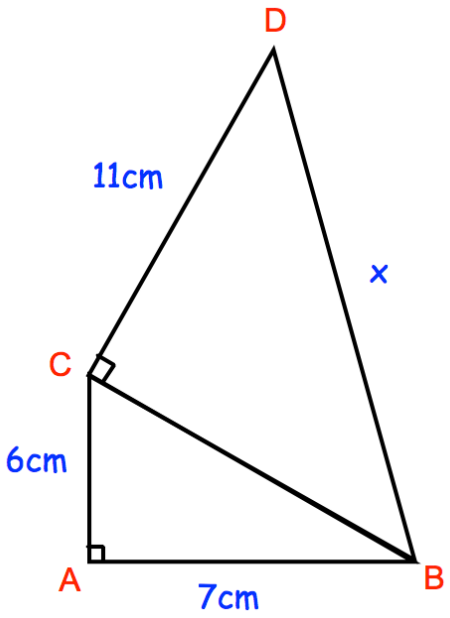
Solve the inequality $2x + 9 > 19 - 8x$

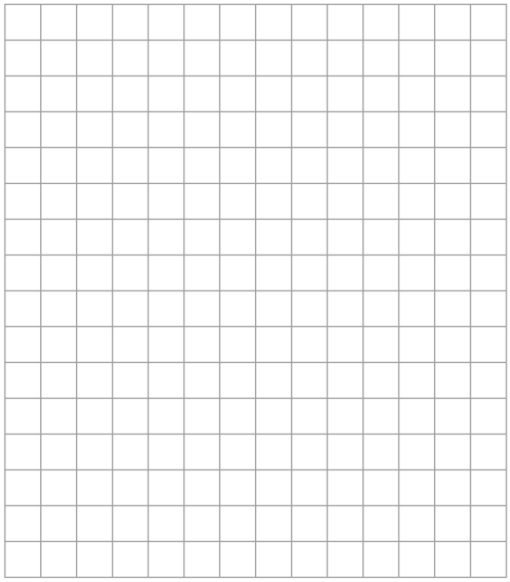
Sketch the range of possible solutions on a number line.



Find x

Complete the table of values for $y = x^3$ and draw its graph

x	-2	-1	0	1	2
y					



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26th April **Foundation Plus 5-a-day**

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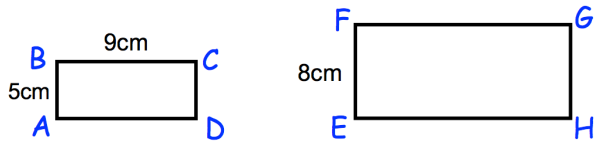
Solve $5(x + 3) = 31$

Not drawn accurately



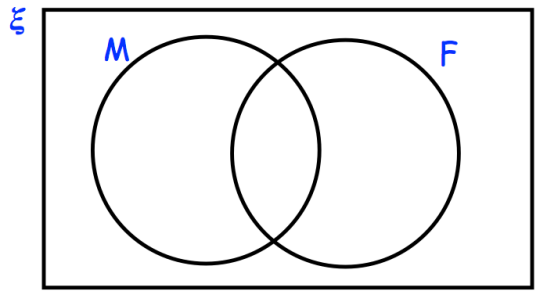
Rectangles *ABCD* and *EFGH* are similar.

Work out the length of FG.

$u = v - at$

$v = 9$ $a = -5$ $t = \frac{1}{4}$

Work out the value of u.



ξ = {1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13}
M = Multiples of 3
F = Factors of 30

Complete the Venn diagram

A number is chosen at random

Find P(M ∪ F)

A number is chosen at random

Find P(M ∩ F)

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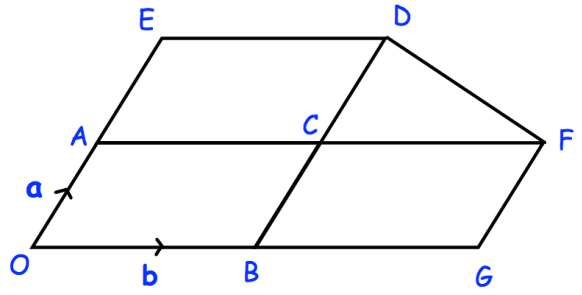
27th April	Foundation Plus 5-a-day
Write 237.5% as a fraction. Give your answer in its simplest form.	
Every weekday, Sohail runs $2\frac{1}{2}$ miles. On a Saturday and a Sunday, he runs $4\frac{2}{3}$ miles. How far does Sohail run over the course of 1 week?	
Calculate the density of a piece of wood with a mass of 21g and a volume of 35cm³	
	In the diagram OBDE and OAFG are parallelograms. B is the midpoint of OG. A is the midpoint of OE. $\overrightarrow{OA} = \mathbf{a}$ and $\overrightarrow{OB} = \mathbf{b}$
Express, in terms of **a** and **b**, the vector $\overrightarrow{OE}$	Express, in terms of **a** and **b**, the vector $\overrightarrow{BA}$

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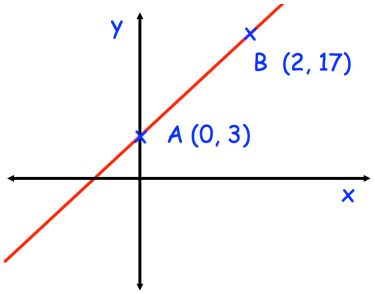
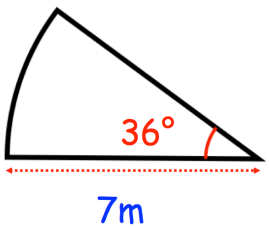
28th April	**Foundation Plus 5-a-day**
Factorise $x^2 + 2x - 8$	Factorise $y^2 - 144$
Find the lowest common multiple (LCM) of 36 and 54.	
Solve the simultaneous equations $5x - y = 17$ $2x + 3y = 0$	
Find the equation of the line passing through points A and B.	
	Calculate the perimeter.

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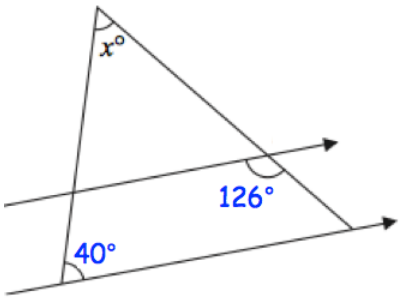
29th April	Foundation Plus 5-a-day
Expand and simplify $(y + 3)(y - 8)$	
	Find x
India and her family go for a meal. They leave a tip of 15% of the price of the meal. The tip is £14.10	Work out the price of the meal.
Greg and Kevin both travel between two towns that are 90 miles apart. Greg drives and it takes him 1 hour 30 minutes. Kevin cycles and it takes him 7 hours 30 minutes.	Work out the difference between their average speeds
Write down the exact value of Tan 0°	Write down the exact value of Sin 90°

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30th April **Foundation Plus 5-a-day**

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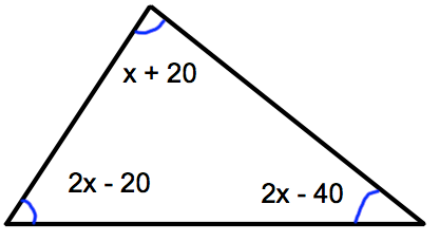
A television is sold in the sales with a 20% discount.
In the sales, the television is sold for £99.20

What is the usual price of the television?

Each exterior angle of a regular polygon is 5°

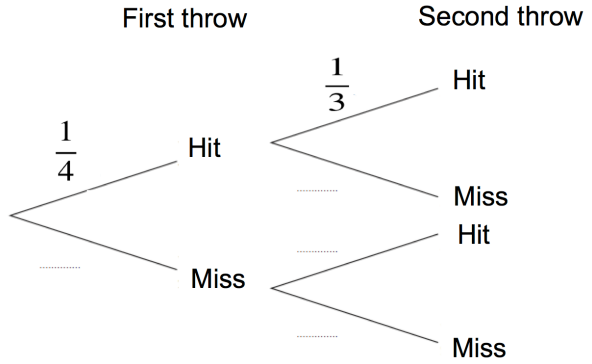
How many sides does the polygon have?

What is the sum of the interior angles of the polygon?



Work out the value of x.

Jennifer is playing darts.
She throws two darts aiming for a Bullseye. The probability Jennifer hits the Bullseye on her first throw is $\frac{1}{4}$
The probability she hits the Bullseye on her second throw $\frac{1}{3}$



Complete the tree diagram.

Work out the probability Jennifer hits the Bullseye twice.

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