

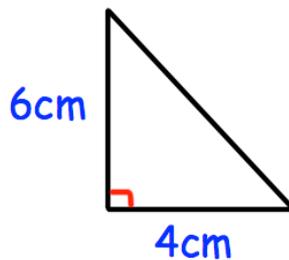
1st January

Corbettmaths

Solve the inequality $3x + 4 \leq 22$

A car decreases in value 10% a year.

If it was bought for £5000, how much will it be worth after 2 years?



Calculate the length of the missing side

The table shows information about how long it takes students to get to school.

Work out an estimate for the mean

Time (t minutes)	Frequency
$0 < t \leq 10$	2
$10 < t \leq 20$	8
$20 < t \leq 30$	12
$30 < t \leq 40$	7
$40 < t \leq 50$	1

David buys 2 DVDs and 2 CDs in a shop and in total they cost £18.

Ellie buys 3 DVDs and 2 CDs in the same shop and they cost £22.

Form two equations and solve to find the cost of each DVD and each CD.



2nd January

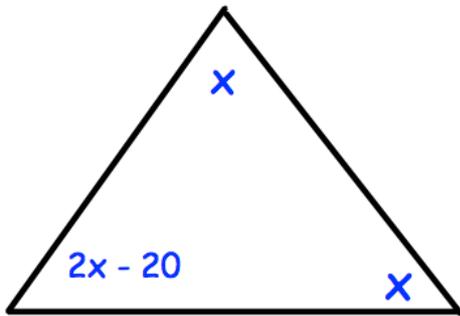


Corbettmaths



12cm

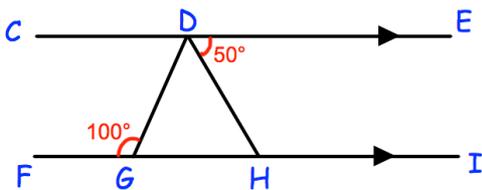
Calculate the perimeter of this semi-circle.

Leave your answer in terms of π Find the value of x

The probability of a bus being late on any day is 0.2

James gets the bus on Monday and on Tuesday.

What is the probability that both buses are on time?



CE and FI are parallel lines.

Angle EDH = 50°

Angle DGF = 100°

Show, giving reasons, that triangle DGH is isosceles.

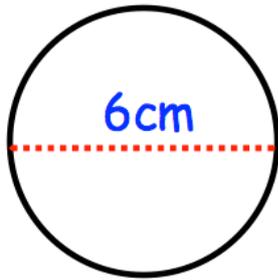
Write 50000 in standard form

Write 0.0043 in standard form

3rd January



Corbettmaths



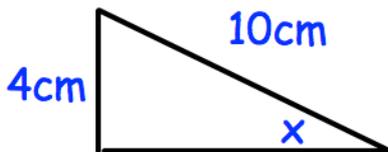
Calculate the circumference of this circle, leaving your answer in terms of π

Expand and simplify

$$(x + 4)(x + 6)$$

Factorise $y^2 + y - 20$

Shown is a right angled triangle.

Find angle x .

Jennifer has 36 DVDs.
This number of DVDs is 80% more than the number she had last month.

How many DVDs did Jennifer have last month?

Match each of the following

 $4x + y$ ————— Expression

 $x + x + x = 3x$ Equation

 $5x - 2 = 28$ Formula

 $V = lwh$ Identity

4th January



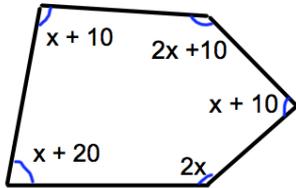
Corbettmaths

Work out, as a mixed number.

$$\frac{7}{11} + \frac{2}{3}$$

Write down the exact value of $\sin 0^\circ$ Write down the exact value of $\sin 45^\circ$

Shown is a pentagon, with the size of each angle shown.



Find the size of the largest angle.

Evaluate

$$4^{-2}$$

Write down the equation of a line parallel to $y = 2x - 3$

5th January

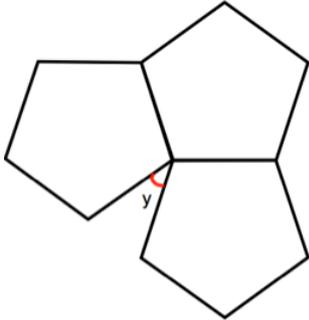


Corbettmaths

Frome
 Population 26,000

This sign is correct to the nearest thousand.

What is the greatest possible number of people that live in Frome?



Three identical regular pentagons are joined as shown.

Find y .

James takes part in an archery competition.

The probability of it being windy is 0.4.
 The probability of James hitting a target in windy weather is 0.7.
 The probability of James hitting a target when it is not windy is 0.9.

Show this in a tree diagram.

Find the probability of James hitting the target.

$$a = \begin{pmatrix} 6 \\ -4 \end{pmatrix} \quad b = \begin{pmatrix} -2 \\ 1 \end{pmatrix}$$

Work out $a - b$

6th January



Corbettmaths

Estimate the value of

$$\frac{803 \times 2.97}{0.613}$$

Draw the locus of all points which are equidistant from points A and B.

A
xB
xMake t the subject of the formula

$$v = u + 10t$$

Write 650000 in standard form

Write 0.021 in standard form

7th January



Corbettmaths

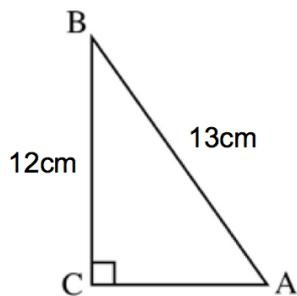
What is the reciprocal of 4?

What is the reciprocal of 0.5?

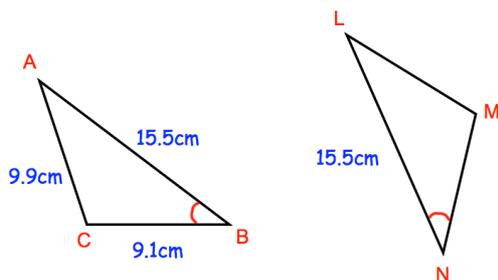
$$1\frac{1}{2} \times 3\frac{1}{3}$$

Martin runs 2 kilometres in 2 minutes.

Calculate his average speed.
Give your answer in m/s



Calculate the size of angle BAC.



ABC and LMN are congruent triangles.
Angle B = Angle N

Write down the length of LM.

8th January

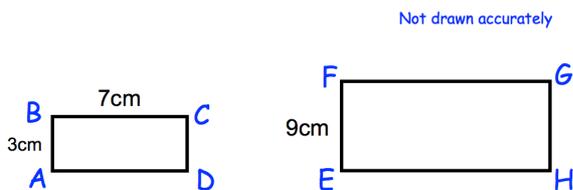
Corbettmaths

Given the probability of Paul scoring a penalty is 0.7 and he takes 30 penalties in a season, how many goals is he expected to score?

$$-3 < x \leq 1$$

x is an integer

Write down all the possible values of x .



Rectangles $ABCD$ and $EFGH$ are similar.

$$AB = 3\text{cm} \quad BC = 7\text{cm} \quad EF = 9\text{cm}$$

Work out the length of FG .

A line has equation $y = 3x + 4$

Write down the gradient of the line

Write down the y -intercept of the line

Factorise $x^2 + 4x - 12$

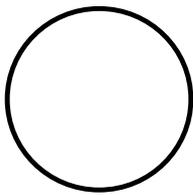
Factorise $x^2 - 25$

9th January

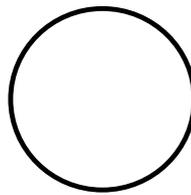


Corbettmaths

Write down the smallest integer that satisfies $6x - 1 > 31$



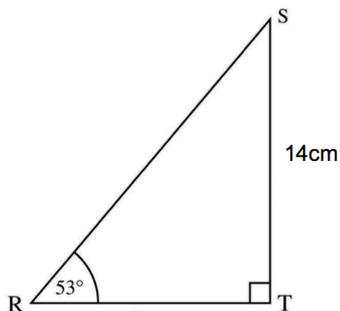
Draw a segment



Draw a tangent

Write 2.5×10^5 as an ordinary number

Write 3.8×10^{-3} as an ordinary number



Find the length of the side RT in the triangle above.

Work out

$$8^{-2}$$

10th January

Corbettmaths

$$4\frac{1}{2} + 2\frac{2}{3}$$

Solve $x^2 + 5x + 6 = 0$

A lamp is on sale at £22.05
This is a 10% reduction of the normal price.

What was the price of the lamp before the reduction?

50g of lead and 20g of tin are mixed to make an alloy.

The density of lead is 11g/cm^3
The density of tin is 7g/cm^3

Work out the volume of lead used in the alloy.

Work out the volume of tin used in the alloy.

What is the density of the alloy?

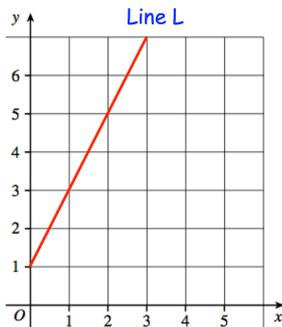
11th January

Corbettmaths

David is x years old
 Martin is 3 years older than David
 The sum of their ages is 37

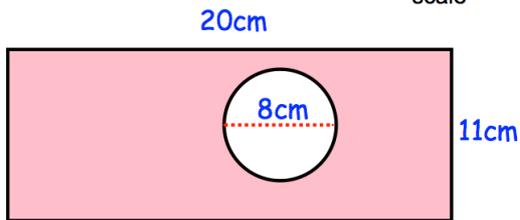
Solve the equation

Write an equation based on this information



Work out the gradient of line L

Not drawn to scale

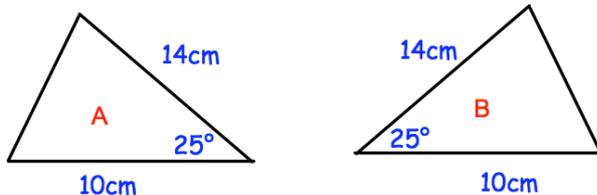


Calculate the shaded area

Solve the simultaneous equations

$$5x - 2y = 4$$

$$3x - 6y = 6$$



State the condition why these triangles are congruent.

12th January

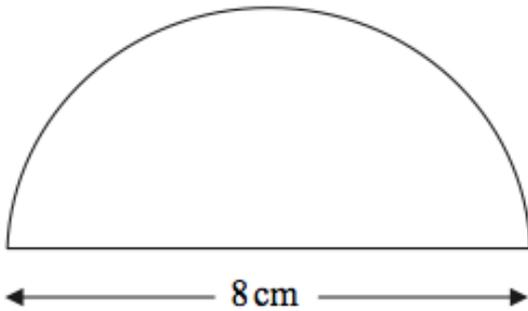


Corbettmaths

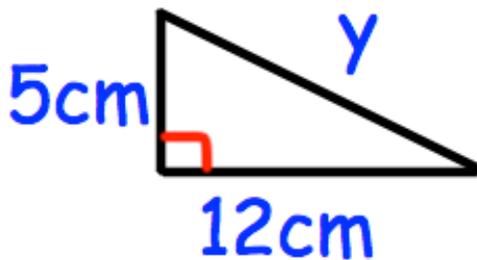
	French	German
Male	14	6
Female	12	8

A student is selected at random.

What is probability of the student studying German?



Calculate the area



Find y

Complete this table for the graph $y = x^2 + 1$

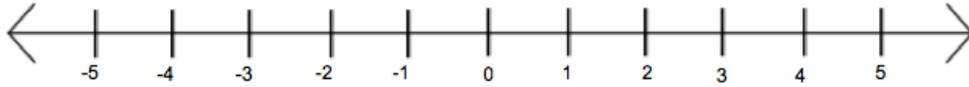
x	-2	-1	0	1	2
y					

$$a = \begin{pmatrix} 2 \\ -1 \end{pmatrix} \quad b = \begin{pmatrix} 5 \\ 3 \end{pmatrix}$$

Work out $2a + b$ as a column vector

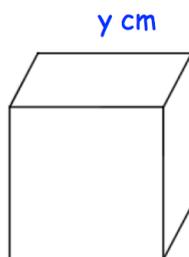
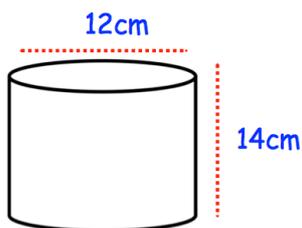
13th January

Corbettmaths

Draw $x < 2$ on the number line.Factorise $x^2 + 12x + 35$ Factorise $x^2 - 10x + 25$

A bicycle wheel has diameter 80cm.
The bicycle travels 50m.

How many complete revolutions
does the wheel make?



A cube has side length y cm.
The cylinder and cube has the same
volume.
Find y

Solve the simultaneous equations

$$5x + 3y = 41$$

$$2x + 3y = 20$$

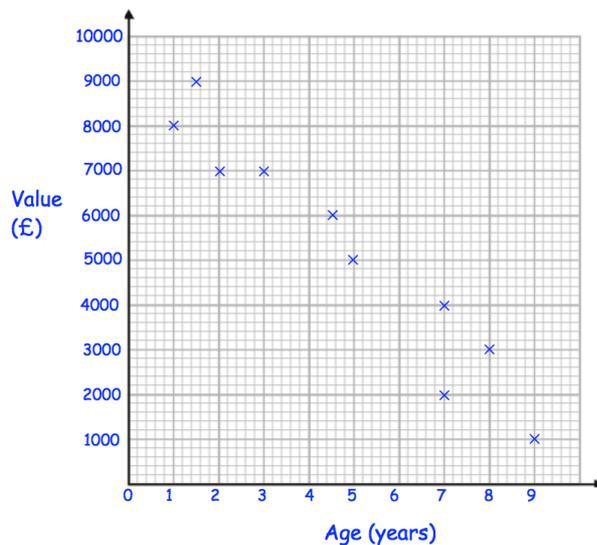
Do not use trial and improvement

14th January



Corbettmaths

$$4\frac{1}{4} - 2\frac{5}{7}$$



The value of cars in a used car garage are recorded below.
The scatter graph shows this information.

The next car that arrives is 6 years old.
Estimate the value of the car.

A car has a value of £2500.
Estimate the age of the car.

Solve

$$4x^2 = 100$$

Write down the equation of the line that is parallel to $y = 6x + 1$ and passes through $(0, 8)$.

15th January

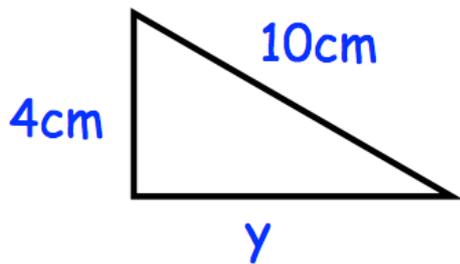
Corbettmaths

Simplify

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

Work out

$$8\frac{1}{3} \div \frac{4}{7}$$



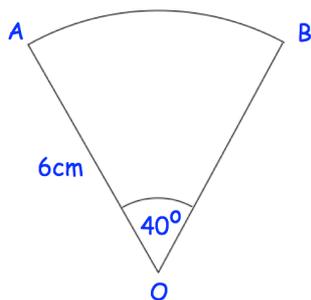
Calculate the length of y for this right-angled triangle

There are red, green and blue beads in a bag.

The ratio of red beads to green beads is 2:5

The ratio of green beads to blue beads is 1:3

Work out the ratio of red beads to blue beads

Find the area of the sector.
Give your answer in terms of π .

16th January

Corbettmaths

Between which two consecutive integers does $\sqrt{87}$ lie?

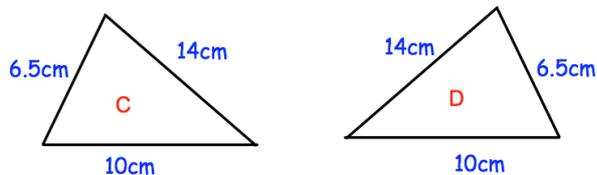
Solve $5x + 1 = 3x + 19$

Cerys leaves £5000 in the bank for four years.
It earns compound interest of 2% each year.

Calculate the total amount Cerys has in the bank at the end of the four years.

$\xi = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12\}$
 $A = \{\text{square numbers}\}$
 $B = \{\text{multiples of 3}\}$

Draw a Venn diagram for this information.

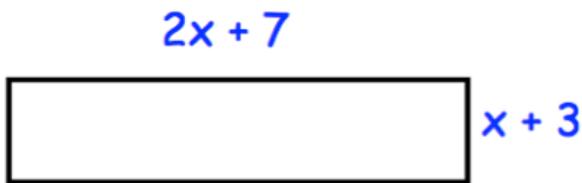


State the condition why these triangles are congruent.

17th January



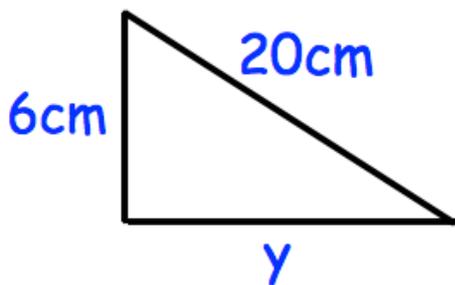
Corbettmaths



The perimeter of the rectangle is 53cm
Find x

Make v the subject

$$t = \frac{v}{4} + 1$$



Find y

Jacob buys a watch costing £84
This cost includes VAT at a rate of 20%.

How much is the watch without VAT?

Write down the exact value of $\cos 60^\circ$

Write down the exact value of $\tan 30^\circ$

18th January

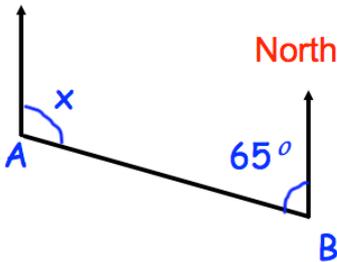
Corbettmaths

If $2x + 4y = 18$

What is the value of $4x + 8y$?

What is the value of $x + 2y$?

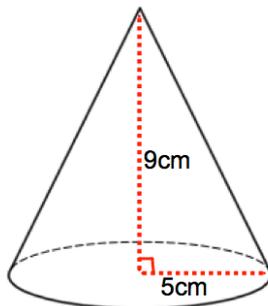
North



What is the size of angle x ?

What is the bearing of A from B?

What is the bearing of B from A?



Work out the volume of the cone.

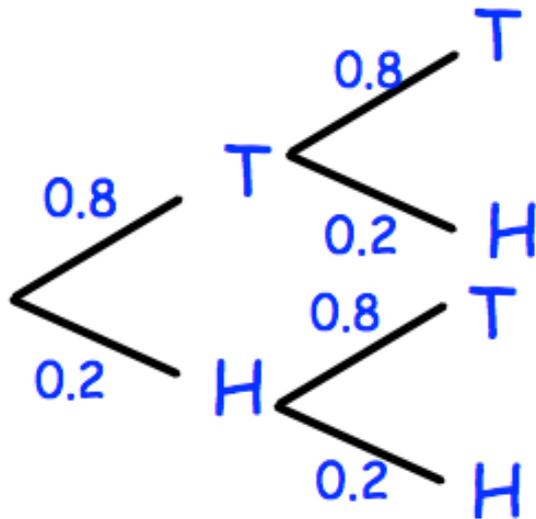
The population of Northern Ireland is 1.8 million, to the nearest hundred thousand.

What is the lowest possible number of people that live in Northern Ireland?

19th January



Corbettmaths



A biased coin is flipped twice.

Work out the probability of a tail and a tail.

Work out the probability of at least one tail.

Solve $x^2 - 2x - 15 = 0$

Estimate 87.8×2.1
0.199

5.62 has been truncated to two decimal places.

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

20th January



Corbettmaths

•
A•
B

Construct the locus of points that are equidistant from A and B

$$1\frac{4}{5} \div 2\frac{3}{4}$$

A container exerts a force of 400 Newtons on the floor.
The pressure on the table is 50 Newtons/m²

Calculate the area of the container that is in contact with the table.

Factorise $x^2 + 8x + 16$

Factorise $x^2 - 121$

21st January	
Marks wage was £120 a week This increased to £144 a week What was the percentage increase?	 Corbettmaths
Solve the inequality $4x + 11 < 2x + 27$	
£2000 is invested at 10% interest for two years. How much money will there be after 2 years?	
Helen is taking part in a quiz on TV. The probability she answers a question correctly is $\frac{4}{5}$ Helen is asked two questions	Calculate the probability she answers both questions correctly.
Solve the simultaneous equations $3x + 5y = 1$ $2x - 3y = 7$ Do not use trial and improvement	

22nd January

Corbettmaths

The mean of five numbers is 12.

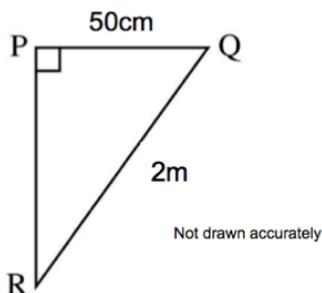
Four of the numbers are 7, 2, 15 and 4.

Work out the fifth number

A line has equation $y = \frac{4}{5}x + 3$

Write down the gradient of the line

Write down the y-intercept of the line



Work out the length of PR.

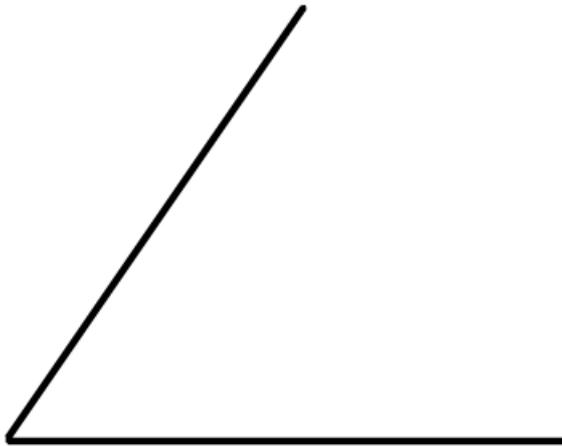
Calculate the density of a piece of wood with a mass of 7g and a volume of 10cm^3

Solve $x^2 + 9x + 14 = 0$

23rd January



Corbettmaths



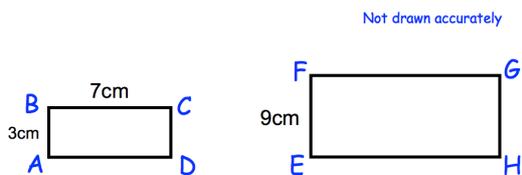
Construct the angle bisector for the angle above.

1.5 2 2.5 3 3.5

Work out the n th term

Work out the 20th term.

Solve $8y + 2 = 20 + 6y$



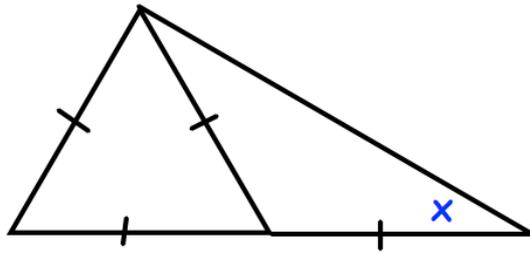
Rectangles $ABCD$ and $EFGH$ are similar.

Work out the length of FG .

24th January



Corbettmaths

Find x

Shown are four terms in a Fibonacci sequence

1 1 2 3

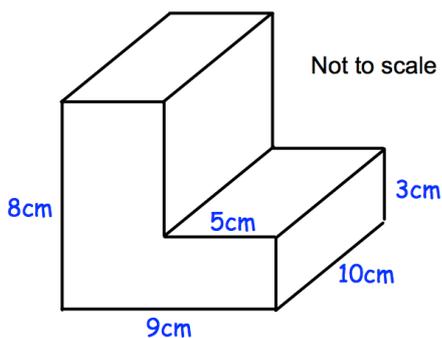
Write down the next four terms

Write 2500 kg in grams.

Give your answer in standard form.

Charlene and Danielle share some money in ratio 2 : 3
Danielle gets £25 more than Charlie.

How much does each girl receive?



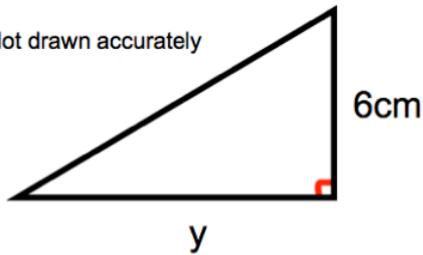
Calculate the surface area

25th January

Corbettmaths

The area of the triangle is 21cm^2 Find y

Not drawn accurately



There are 700 students in a school.
A teacher says that the ratio of boys to girls is 1:2.

Explain why the teacher is incorrect.

Solve $x^2 - 49 = 0$ The area of a circle is 30cm^2 .

Find the length of the radius.

Line A $y = 2x + 3$

Line B $y = \frac{1}{2}x - 3$

Line C $y = 6 - x$

Line D $y - 2x = 7$

Line E $y + 2x = 3$

Which two lines are parallel?

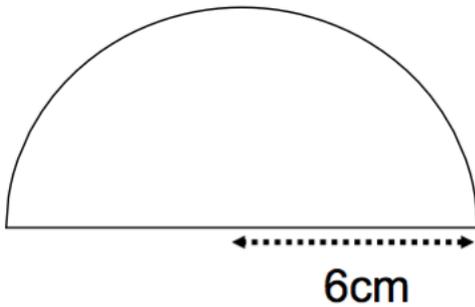
26th January



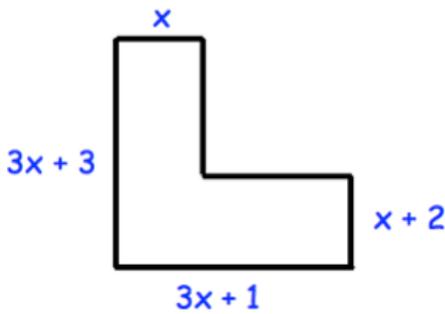
Corbettmaths

The angles in a triangle are in the ratio 1: 2: 9.

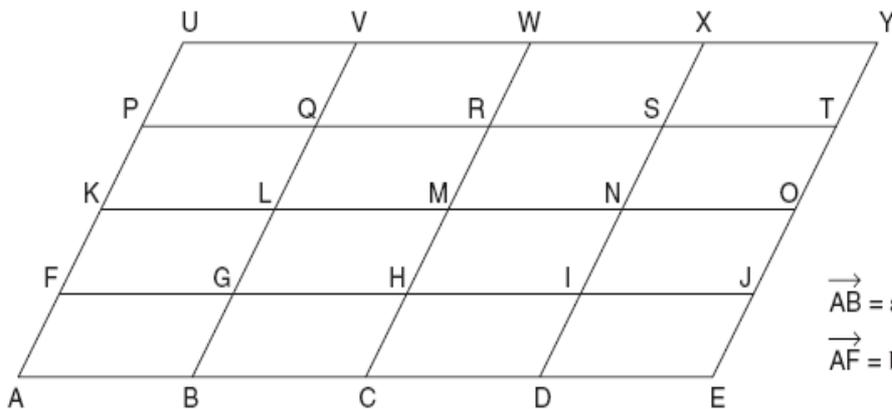
What is the size of each angle?



Find the perimeter



Find an expression for the perimeter.



Write a vector for \overrightarrow{AH} in terms of **a** and **b**

Write a vector for \overrightarrow{DU} in terms of **a** and **b**

27th January

Corbettmaths

Find the nth term

Find the 50th term

$$\frac{3}{7}, \frac{6}{12}, \frac{9}{17}, \frac{12}{22}, \dots \dots$$

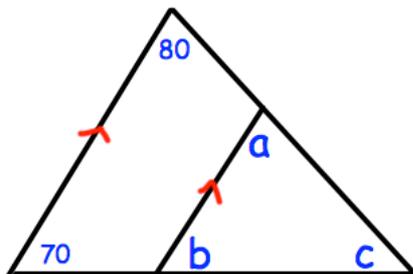
Expand and simplify

$$(y + 2)(y + 5)$$

Expand and simplify

$$(y - 5)^2$$

The speed limit on a road is 50 mph.
A car drives 20 miles in 25 minutes.
Is the car breaking the speed limit?



Find the size of a, b and c

Work out five million multiplied by three hundred thousand.

Give your answer in standard form.

28th January

Corbettmaths

Expand and simplify

$$(x + 5)(x + 3)$$

$$R = 8 - \sqrt{S}$$

Calculate S if $R = 3$

Calculate the gradient of the straight line passing through (0, 5) and (3, 11).

Write down the equation of the line.

The King's Palace	5.4 million
Castle	923,840
Theme Park	1.43×10^7
Science Museum	4,192,900

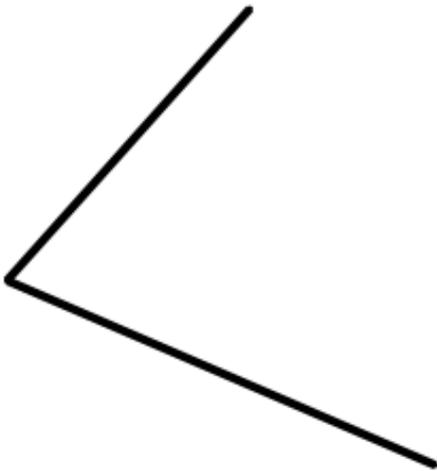
Which attraction had the most visitors?

Write as a fraction.

$$5^{-3}$$

29th January

Corbettmaths



Construct the angle bisector

30% of a number is 24.
Work out the original number.

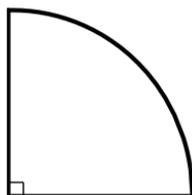
145% of a number is 1189
Work out the original number.

Jasper feeds his dog $\frac{2}{3}$ of a can of dog food each day.
Work out how many cans of dog food are eaten in January.

Give your answer as a mixed number.



The distance from Ballymena to Lisburn is $20a$.
What is the distance from Ballymena to Antrim?

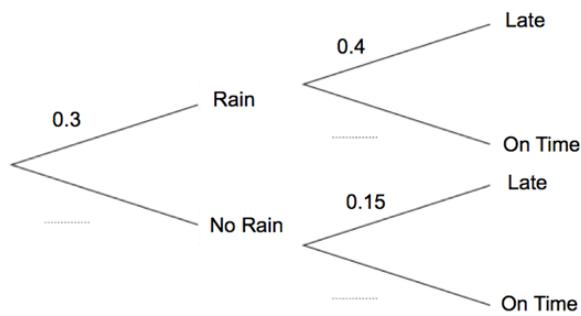


8cm

Calculate the perimeter of the sector.

30th January

Corbettmaths



Find the probability that on a day selected at random, it is **rainy** and the bus is **late**.

In a small village, one bus arrives a day. The probability of rain in the village is 0.3.

If it rains, the probability of a bus being late is 0.4.

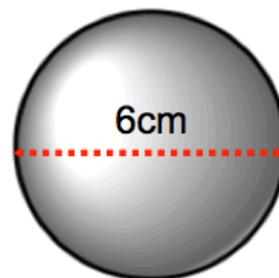
If it does not rain, the probability of a bus being late is 0.15.

Find the probability that the bus is **on time**

Solve

$$5y + 3 < 28$$

Find the volume of the sphere.



4 schools sent students to a languages course.

One of the schools sent both French and German students. The ratio of French to German students it sent was 1 : 3
The school sent 21 German students.

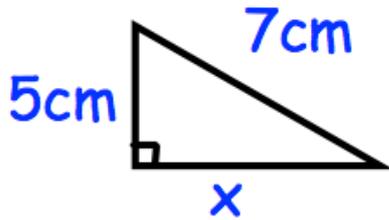
The other 3 schools sent the same number of students.

Work out the total number of students sent to the languages course.

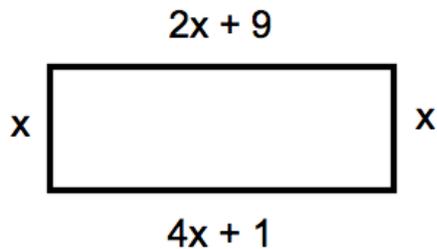
31st January



Corbettmaths

Find x 

A rectangle is shown below.

Explain why $4x + 1 = 2x + 9$ Solve the equation above to find the size of x .

Work out the area of the rectangle.

Write down the exact value of $\sin 30^\circ$ Write down the exact value of $\tan 45^\circ$

$$a = \begin{pmatrix} 2 \\ -1 \end{pmatrix} \quad b = \begin{pmatrix} 5 \\ 3 \end{pmatrix}$$

Work out $2a - b$ as a column vector