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

Corbettmaths

Tick the correct box

5^0

- Greater than 1 ☐
- Equal to 1 ☑
- Less than 1 ☐

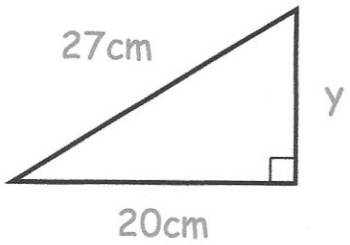
Find y

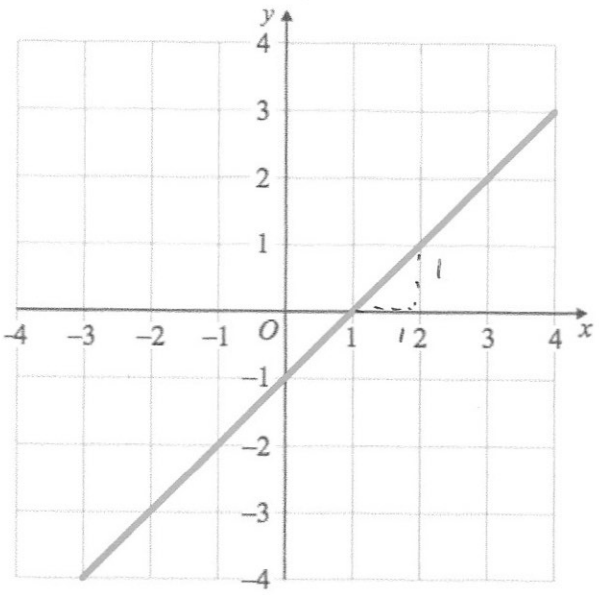
$y^2 + 20^2 = 27^2$

$y^2 + 400 = 729$

$y^2 = 329$

$y = 18.14$ cm





Work out the gradient of the line shown

$\frac{1}{1} = 1$

Work out the equation of the line

$y = x - 1$

A clothes shop normally sells their goods at 80% above cost price.
In a sale, the shop reduces the prices by 25%.

What percentage profit does the shop make on clothes sold in the sale?

$100 \times 1.8 \times 0.75$

$= 135$

35% profit

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

Corbettmaths

Write as a fraction 7^{-2}

$\frac{1}{7^2} = \frac{1}{49}$

Calculate the mass of a piece of metal that has a volume 50cm³ and density 7.6g/cm³

$d = \frac{m}{v}$

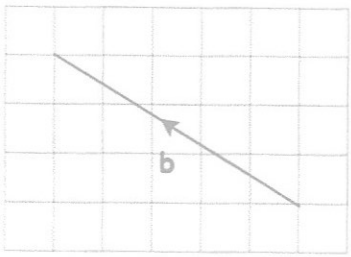
$m = 50 \times 7.6$

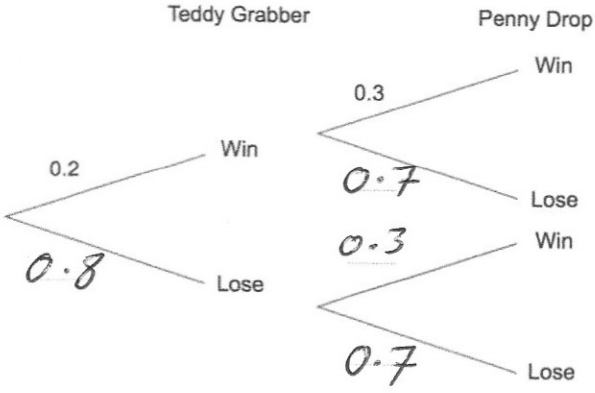
$= 380g$

Abby has been asked to draw the vector $\begin{pmatrix} 5 \\ -3 \end{pmatrix}$.

What mistake has Abby made?

The arrow should go the other way





Complete the tree diagram

The probability that he wins on the Teddy Grabber is 0.2.

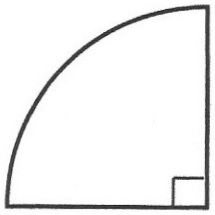
The probability that he wins on the Penny Drop is 0.3.

Work out the probability Samuel wins on the Teddy Grabber and he also wins on the Penny Drop.

$0.2 \times 0.3 = 0.06$

3rd September **Foundation Plus 5-a-day**

Corbettmaths



Calculate the perimeter of this sector.

$\frac{1}{4}(\pi \times 40) + 20 + 20$

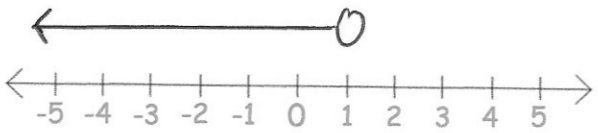
$= 71.416\text{cm}$

Solve $5x + 2 < 7$

$5x < 5$

$x < 1$

Represent the answer on the number line



Find the gradient of the line with equation $y = x - 4$

1

Solve $x^2 + 5x + 4 = 0$

$(x + 1)(x + 4) = 0$

$x = -1$ or $x = -4$

Write down the exact value of Sin 45°

$\frac{\sqrt{2}}{2}$

Write down the exact value of Cos 45°

$\frac{\sqrt{2}}{2}$

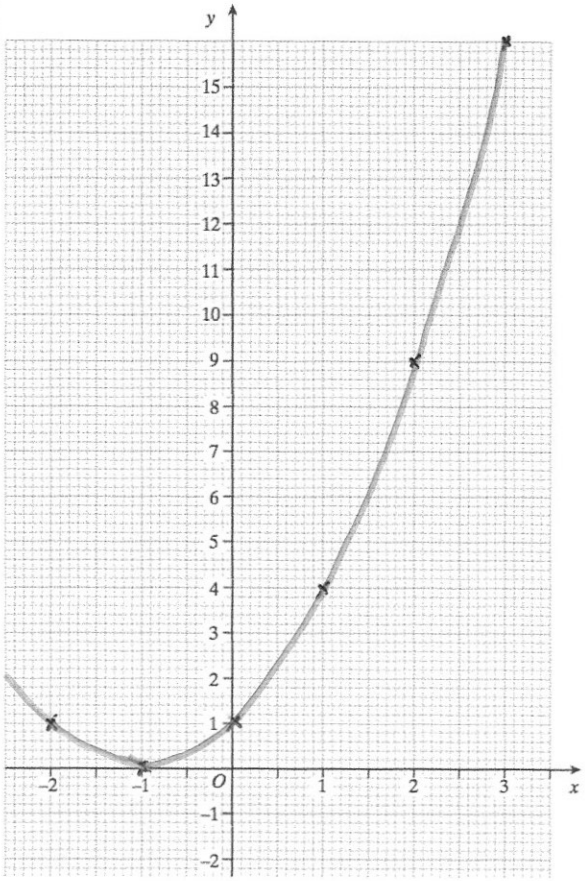
4th September **Foundation Plus 5-a-day**

Corbettmaths

Complete the table of values of
$y = x^2 + 2x + 1$

x	-2	-1	0	1	2	3
y	1	0	1	4	9	16

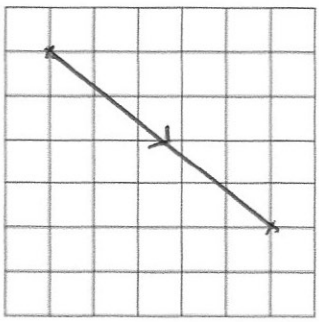
Draw the graph $y = x^2 + 2x + 1$



Write down the coordinates of the turning point on the graph
$y = x^2 + 2x + 1$

Draw an arrow to represent the vector

$$\begin{pmatrix} 5 \\ -4 \end{pmatrix}$$

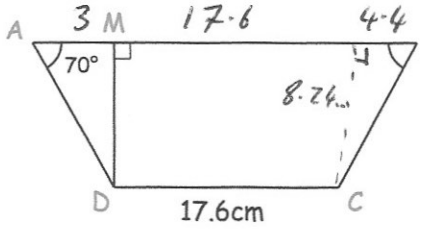


ABCD is a trapezium.

Angle BAD = 70° CD = 17.6cm

AB = 25cm AM = 3cm

Find angle ABC



T O A

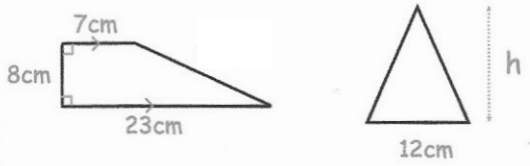
DM = 3 x tan 70

DM = 8.24...

$\angle ABC = \tan^{-1}\left(\frac{8.24...}{4.4}\right) = 61.9°$

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

Corbettmaths



The trapezium and triangle have the same area

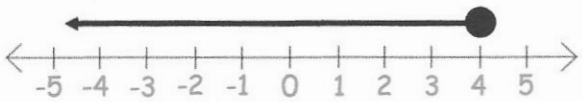
Find h

$\frac{1}{2}(7+23)\times 8 = 120\ cm^2$

$\frac{1}{2}(12)\times h = 120$

$6h = 120$

$h = 20cm$



Write down the inequality shown by the diagram.

$x \leq 4$

Solve

$$\frac{9(4x-1)}{2x} = 10$$

$9(4x-1) = 20x$

$36x - 9 = 20x$

$16x = 9$

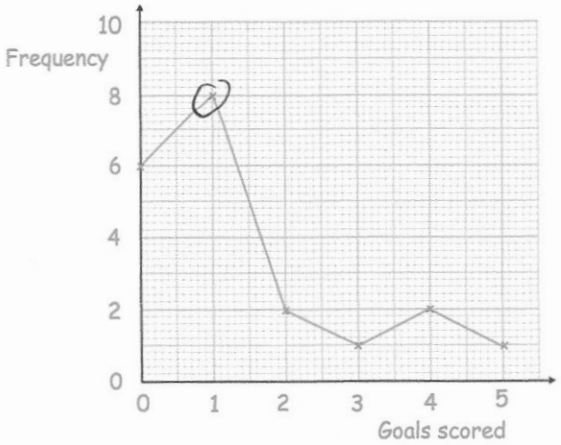
$x = 0.5625$

The frequency polygon shows the number of goals scored in 20 football matches.

~~1st~~ 10.5th value

Work out the median number of goals scored.

1



Work out the mean number of goals scored.

$0\times 6 = 0$

$1\times 8 = 8$

$2\times 7 = 4$

$3\times 1 = 3$

$4\times 2 = 8$

$5\times 1 = 5$

28

$28 \div 20 = 1.4$

6th September **Foundation Plus 5-a-day**

Corbettmaths

Estimate

$$\frac{19.87 \times 2.03}{0.51^2} \approx \frac{20 \times 2}{0.5^2}$$

$$= \frac{40}{0.25}$$

$$\frac{40}{0.25} = \frac{160}{1}$$

$$= 160$$

Factorise

$x^2 - 8x + 16$

$(x - 4)(x - 4)$

What is the size of each exterior angle of a regular 40 sided polygon?

$360 \div 40 = 9°$

What is the size of each interior angle of a regular 40 sided polygon?

$180 - 9 = 171°$

Simplify

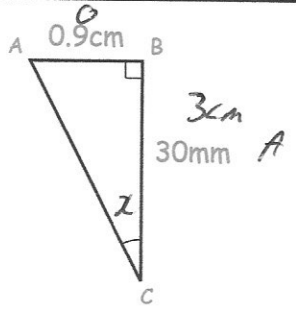
$$\frac{4^7 \times 4^2}{4^3}$$

$$\frac{4^9}{4^3} = 4^6$$

Find the size of angle ACB.

$\tan x = \frac{0.9}{3}$

$x = 16.7°$



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

Corbettmaths

Solve $x^2 - 16x - 17 = 0$

$(x - 17)(x + 1) = 0$

$x = 17$ or $x = -1$

Write 1.83×10^{-4} as an ordinary number.

0.000183

Write 944000000 in standard form.

9.44×10^8

Height	Frequency	fh
$120 < h \leq 130$	51	6375
$130 < h \leq 140$	120	16200
$140 < h \leq 150$	66	9570
$150 < h \leq 160$	59	9145
$160 < h \leq 170$	4	660
	300	41950

Work out an estimate for the mean

$41950 \div 30$

139.8

Simplify

$\frac{4\pi}{9} + \frac{\pi}{6}$ $\frac{8\pi}{18} + \frac{3\pi}{18}$

Give your answer as a fraction.

$\frac{11\pi}{18}$

Three angles in a pentagon are 100 degrees each. $3 \times 100 = 300$

With the two other angles, one is 10 degrees larger than the other.

x & $x + 10$

Find the size of each angle.

$540 - 300 = 240$

$2x + 10 = 240$

$2x = 230$

$x = 115°$ and $x + 10 = 125°$

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

Corbettmaths

A special edition packet of cereal contains an extra 30%.

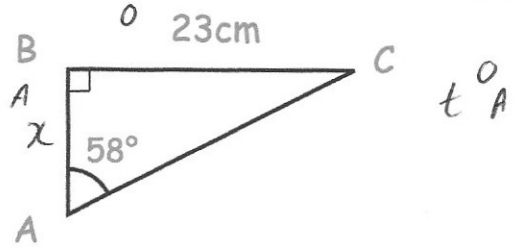
The special edition packet contains 546g.

What does the normal packet contain?

130% of $y = 546$

1% of $y = 4.2$

100% of $y = 420\text{g}$



t^0 A

Calculate the length of side AB

$\frac{23}{\tan 58}$

14.372cm

Solve $x^2 - 6x - 16 = 0$

$(x-8)(x+2)=0$

$x=8$ or $x=-2$

Mr Jenkins catches the 11:45am bus from London to Glasgow.
The distance between the two cities is 407 miles.
The bus travels at an average speed of 55mph.

What time should he arrive in Glasgow?

$t = \frac{407}{55} = 7.4$ hours

7 hours 24 mins

7:09pm or 19:09

A sphere has a radius of 9mm.
Find the surface area of the sphere.

$4\pi \times 9^2$

$= 1017.9\text{mm}^2$

9th September **Foundation Plus 5-a-day**

Corbettmaths

The front elevation of a solid shape is a circle.
The side elevation of the solid shape is a rectangle.
The plan view of the solid shape is a rectangle.

Write down the name of the shape.

Cylinder

Calculate the nth term

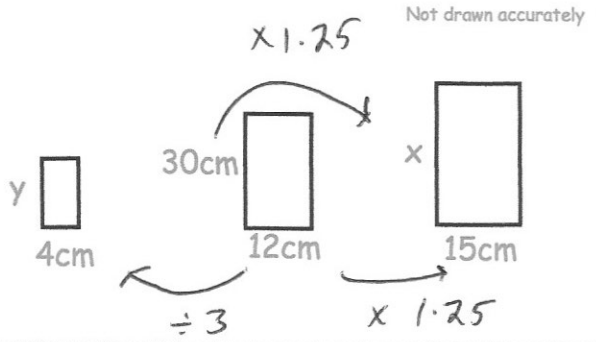
75 68 61 54 ... .

$-7n+82$

or $82-7n$

Work out the 100th term.

$-700+82=-618$



The diagram shows three similar rectangles.

Work out the value of y.

$30 \div 3 = 10$ cm

Work out the value of x.

30×1.25

37·5 cm

Lauren is given a 12% pay rise.
Her new salary is £24,080

What was Lauren's salary before the pay rise?

y

24080 = 112% of y

215 = 1% of y

£21500 = 100% of y

10th September	Foundation Plus 5-a-day

Corbettmaths

Aminah buys an antique for £120 and sells it for £216.

$216 - 120 = 96$

Work out her percentage profit

$\frac{96}{120} \times 100 = 80\%$

80%

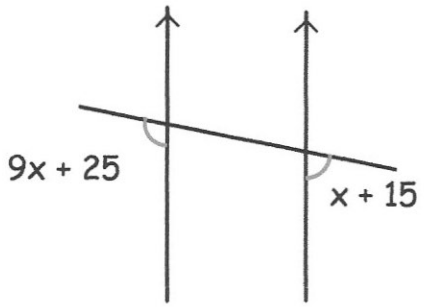
Find x

$9x + 25 + x + 15 = 180$

$10x + 40 = 180$

$10x = 140$

$x = 14°$



The fourth term of a geometric progression is 80.
The fifth term of a geometric progression is 320.

Find the first term of the geometric progression.

$320 \div 80 = 4$

1.25 5 20 80

1.25

Expand and simplify $(5y + 1)(y - 3)$

$5y^2 - 15y + y - 3$

$5y^2 - 14y - 3$

Calculate the area if the pressure is 8N/cm² and the force is 200N

$P \frac{F}{A}$

$A = \frac{F}{P} = \frac{200}{8} = 25cm^2$

11th September **Foundation Plus 5-a-day**

Corbettmaths

Work out the product of

$\sqrt[4]{81}$ $\sqrt{36}$ $\sqrt[3]{125}$

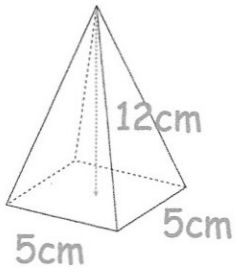
$3 \times 6 \times 5$

90

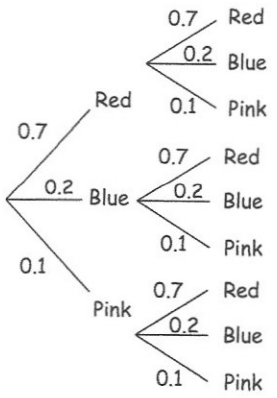
Work out the volume of this square based pyramid.

$\frac{1}{3} \times 5 \times 5 \times 12$

$= 100\ cm^3$



The probability that a spinner lands on red is 0.7
The probability that the spinner lands on blue is 0.2
The probability that the spinner lands on pink is 0.1
The spinner is spun twice.



Find the probability that the spinner lands on blue twice.

0.2×0.2

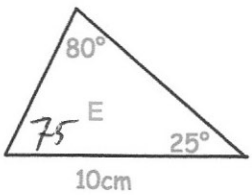
$= 0.04$

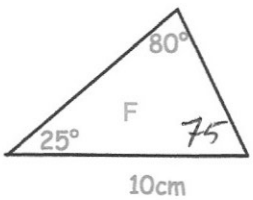
Find the probability that the spinner lands on the same colour twice.

$P(RR) = 0.7 \times 0.7 = 0.49$

$P(PP) = 0.1 \times 0.1 = 0.01$

0.54





State the condition why the two triangles are congruent.

ASA

12th September	Foundation Plus 5-a-day

Corbettmaths

Expand and simplify

$(y + 6)(y - 7)$

$y^2 - 7y + 6y - 42$

$y^2 - y - 42$

Factorise fully

$36y^3 - 24y^2$

$12y^2(3y - 2)$

Write 0.00000092 in standard form.

9.2×10^{-7}

Write 150×10^6 in standard form.

1.5×10^8

A circle has circumference 80cm.

Find the area.

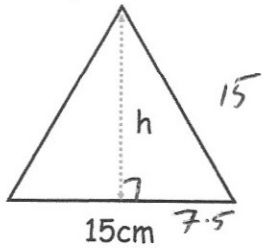
$80 \div \pi = 25.464...$

$r = 12.73...$

$\pi \times 12.73...^2$

$509.3 cm^2$

Below is an equilateral triangle.



Calculate the height of the triangle.

$h^2 + 7.5^2 = 15^2$

$h = 12.99 cm$

Find the area of the triangle.

$\frac{1}{2}(15) \times 12.99...$

$= 97.43 cm^2$

It takes 6 hours for 20 workers to seed 40 acres.

How long would it take 10 workers to seed 90 acres?

$6 \times 20 = 120$

$120 \div 40 = 3$

$90 \times 3 = 270$

$270 \div 10 = 27$ hours

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

Corbettmaths

Simplify

$$\frac{(y^4)^5}{y^6}$$

$y^{20} \div y^6$

y^{14}

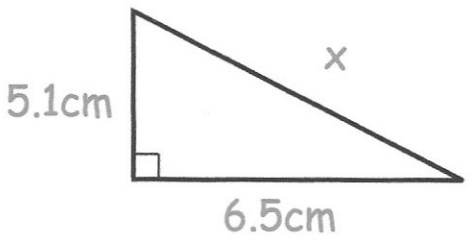
x is an integer.

Write down all the solutions of the inequality $3 < 2x + 1 < 11$

$2 < 2x < 10$

$1 < x < 5$

2, 3, 4



Find x

$5.1^2 + 6.5^2 = x^2$

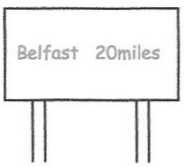
$x^2 = 68.26$

$x = 8.26\text{cm}$

A village is 20 miles from Belfast.
Conor drives from the village to Belfast at 40mph $20 \div 40 = 0.5$ hrs (30m)
Kelly drives from the village to Belfast at 50mph $t = \frac{d}{s}$

$20 \div 50 = 0.4$ hrs (24m)

Work out how much longer the journey takes Conor.
Give your answer in minutes.

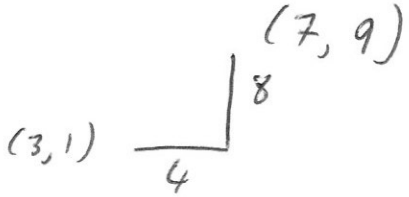


6 minutes

P is the point with coordinates $(3, 1)$
Q is the point with coordinates $(7, a)$

The gradient of the line PQ is 2.

Find a. 9



14th September **Foundation Plus 5-a-day**

Corbettmaths

Calculate the radius of a circle with area 250cm²

$\pi r^2 = 250$

$\div \pi \quad \div \pi$

$r^2 = 79.577...$

$r = 8.92$ cm

Maeve has £8 to the nearest pound.

What is the least possible amount of money she has?

£7.50

What is the greatest possible amount of money she has?

£8.49

Antoni is making purple paint by mixing blue paint and red paint in the ratio 3 : 5.

3+5=8

Each 5 litre tin of red paint costs £18.
Each 2.5 litre tin of blue paint costs £10.

75 ÷ 2.5 = 30 tins of blue

125 ÷ 5 = 25 tins of red

Work out the cost of making 200 litres of purple paint.

200 ÷ 8 = 25

75 litres of blue

125 litres of red

25 × 18 = ~~£450~~

30 × 10 = £300

£750

~~£675~~

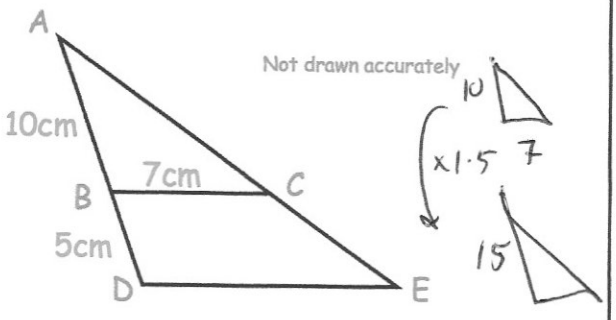
A dice is rolled.
A coin is flipped.

What is the probability of getting a tail and a prime number?

H1 H2 H3 H4 H5 H6

T1 (T2) (T3) T4 (T5) T6

$\frac{3}{12} = \frac{1}{4}$



Lines BC and DE are parallel.

Find the length of DE

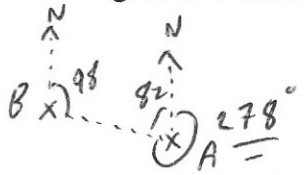
7 × 1.5 = 10.5cm

15th September **Foundation Plus 5-a-day**

Corbettmaths

The bearing of A from B is 098°

Find the bearing of B from A.

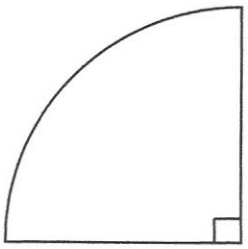


$360 - 82 = 278°$

Find the area.
Give your answer in terms of π

$\frac{1}{4} \times \pi \times 14^2$

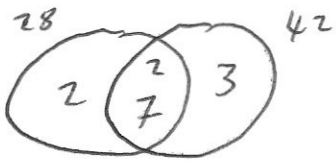
$= 49\pi \text{ cm}^2$



Work out the LCM of 28 and 42

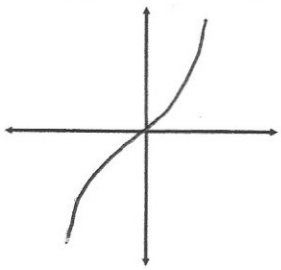
$28 = 2 \times 2 \times 7$

$42 = 2 \times 3 \times 7$

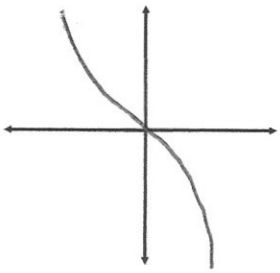


$LCM = 2 \times 2 \times 3 \times 7$

$= 84$



Sketch $y = x^3$



Sketch $y = -x^3$

A full box holds 50 CDs to the nearest 10. max = 54

What is the greatest number of CDs that 8 boxes would hold?

$54 \times 8 = 432$

16th September **Foundation Plus 5-a-day**

Corbettmaths

$-8 \leq 3y < 6$

$\div 3 \quad \div 3 \quad \div 3$

y is an integer.

Write down all the possible values of y.

$-2.\dot{6} \leq y < 2$

$-2, -1, 0, 1$

A circle has area 80cm².

Find the circumference.

$\pi r^2 = 80$

$r^2 = 25.46...$

$r = 5.046...$

$d = 10.0925...$

$C = \pi \times d$

$C = 31.707\text{cm}$

Write as a fraction 5^{-3}

$\frac{1}{5^3} = \frac{1}{125}$

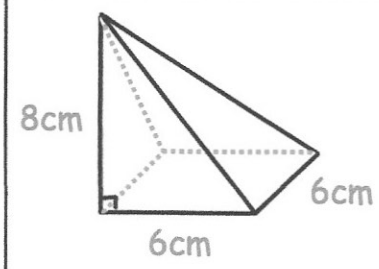
Without using a calculator, work out

$\sqrt{4.9 \times 10^9}$

4900000000

70000

or 7×10^4

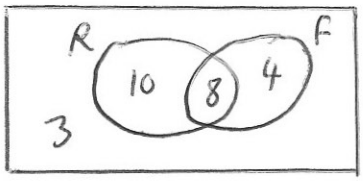


Find the volume of this pyramid

$\frac{1}{3} \times 6 \times 6 \times 8 = 96\text{cm}^3$

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

Corbettmaths

$x > 4$ — x is greater than 4 $x \leq 4$ — x is less than or equal to 4 $x < 4$ — x is less than 4 $x \geq 4$ — x is greater than or equal to 4	Match each inequality to the correct description.
In a class, there are 25 students. Of these students, 18 play rugby. 8 play rugby and football. 3 students do not play rugby or football. How many students play football but do not play rugby? 4	Show this information in a Venn diagram. 
Write down the equation of a line parallel to $y = -2x + 8$ $y = -2x + 1$	
The population of a country is 64,000,000. Write this in standard form. 6.4×10^7	Write 4056×10^3 in standard form. 4.056×10^6

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

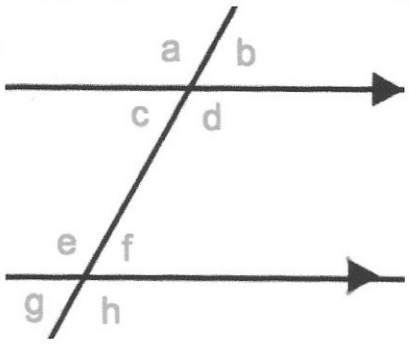
Corbettmaths

Jack truncates a number, y, to one decimal place.

The result is 1.2

Write down the error interval for y

$1.2 \leq y < 1.3$



Which angle is vertically opposite to b?

c

Which angle is alternate to c?

f

Make w the subject of

$$A = \frac{w}{6} + 7$$

$A - 7 = \frac{w}{6}$

$w = 6A - 42$

Duration (years)	Frequency
$0 \leq d < 10$	9
$10 \leq d < 20$	13
$20 \leq d < 30$	16
$30 \leq d < 40$	2

40

fd
45
195
400
70
710

Calculate an estimate for the mean

$710 \div 40$

17.75 years

Line A is parallel to $y = 4x + 3$ and also passes through the origin.

Write down the equation of Line A.

$y = 4x$

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

Corbettmaths

Number of cats	Number of children	fx
0	6	0
1	13	13
2	7	14
3	3	9
4	1	4
	30	40

Thirty students were asked how many cats they owned.
The results are shown in the table.
Calculate the mean number of cats owned per child.

$40 \div 30 = 1.33...$

Emilia wants to buy 45 garden gnomes that normally cost £8 each.

Gardenbase
20% off
$45 \times 8 = 360$
$360 \times 0.8 = 288$

Lawn Factory
Buy 5 get 2 free
buy 30 get 12 free
then buy 3 more

Which shop should she use?

Lawn factory

$33 \times 8 = £264$

The value of a motorcycle was £20000 on 1st April 2018.
Every six months the value of the motorcycle decreases by 2% of its value at the start of that six months.

What was the value of the motorcycle on 1st April 2020?

$20000 \times 0.98^4 = 18447.3632...$

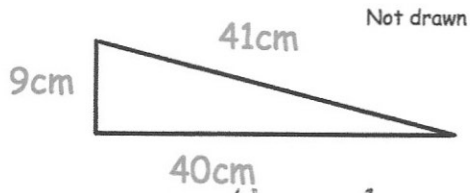
£18447.36

Write down the reciprocal of 3.055

$3.055 = \frac{3055}{1000}$

reciprocal is $\frac{1000}{3055}$

$\frac{200}{611}$



$a^2 + b^2 = c^2$
$9^2 + 40^2 = 1681$
$41^2 = 1681$ ✓

Shown is a triangle with sides of length 9cm, 40cm and 41cm
Is the triangle right-angled?
Explain your answer.

yes

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

Corbettmaths

$A = 9 \times 10^5$ $B = 3 \times 10^{-9}$

Work out AB

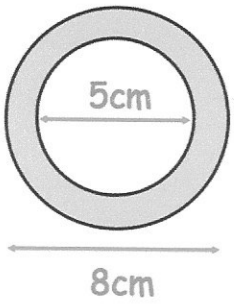
27×10^{-4}

2.7×10^{-3}

Calculate the shaded area

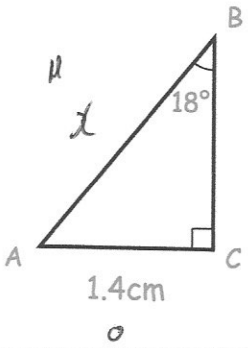
$(\pi \times 4^2) - (\pi \times 2.5^2)$

$30.63 cm^2$



Find the length of AB.

$\frac{1.4}{\sin 18}$ $4.53cm$



Rayan runs 861m in 2 minutes 6 seconds. 126 seconds

Assuming his average speed remains the same, how long should it take Rayan to run 205m?

$861 \div 126 = 6.8\dot{3}$ m/s

$205 \div 6.8\dot{3}$

30 seconds

Here is a formula

$W = 4a^2$

if $a=1$ $w=4$
$a=2$ $w=16$

Heather says that if the value of a is doubled, W doubles also.
Is she correct?

No, w is 4 times larger.

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

Corbettmaths

Factorise

$x^2 - 2x - 3$

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

Factorise

$x^2 - x - 132$

$(x+11)(x-12)$

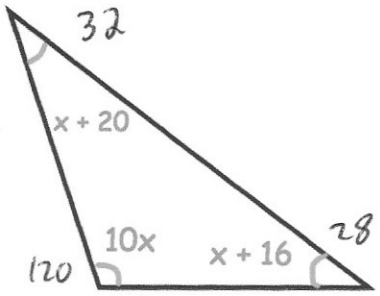
Find the size of the largest angle.

$12x + 36 = 180$

$12x = 144$

$x = 12$

$120°$



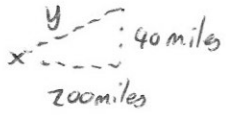
A helicopter takes off from an airport and then flies 200 miles East and then 40 miles North.

$200^2 + 40^2 = y^2$

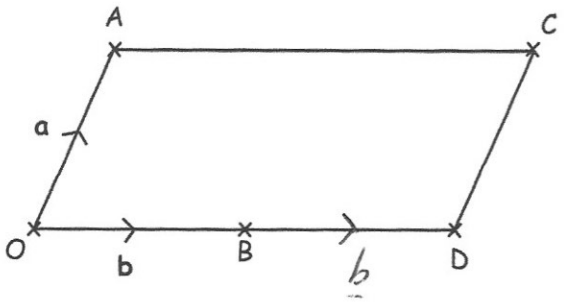
$y = 203.96$

The helicopter then flies directly back to the airport.

How far does the helicopter fly in total?



$200 + 40 + 203.96 = 443.96$ miles



OACD is a parallelogram.
B is the midpoint of OD.

$\vec{OA} = \mathbf{a}$ $\vec{OB} = \mathbf{b}$

Express in terms of **a** and **b**, the vector $\vec{OC}$

$\underline{a} + 2\underline{b}$

Express in terms of **a** and **b**, the vector $\vec{OD}$

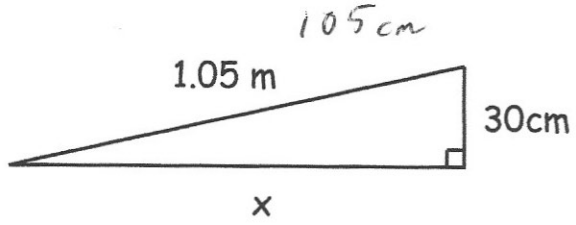
$2\underline{b}$

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

Corbettmaths

Work out the reciprocal of 0.7 $\frac{7}{10}$

$\frac{10}{7}$ or $1\frac{3}{7}$



Find x

$x^2 + 30^2 = 105^2$

$x^2 + 900 = 11025$

$x^2 = 10125$

$x = 100.62\text{cm}$

Solve

$3w + 25 = 7w - 14$

$-3w \quad -3w$

$25 = 4w - 14$

$+14 \quad +14$

$4w = 39$

$w = 9.75$

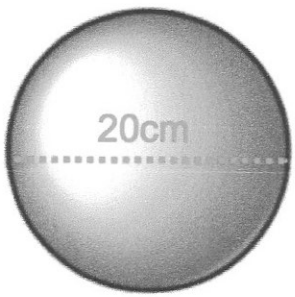
James leaves £8000 in the bank for two years.

It earns compound interest of 5% per year.

Calculate the total amount in the bank at the end of two years.

8000×1.05^2

£8820



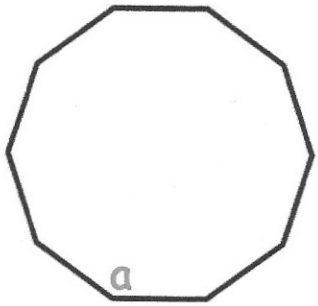
A sphere has a diameter of 20cm.
Calculate the volume of the sphere.
Give your answer to 1 decimal place.

$V = \frac{4}{3} \times \pi \times 10^3$

$= 4188.8\text{cm}^3$

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

Corbettmaths



$(10-2) \times 180$

8×180

$= 1440°$

$1440 \div 10$

Shown is a regular decagon.

Find the size of each interior angle, a.

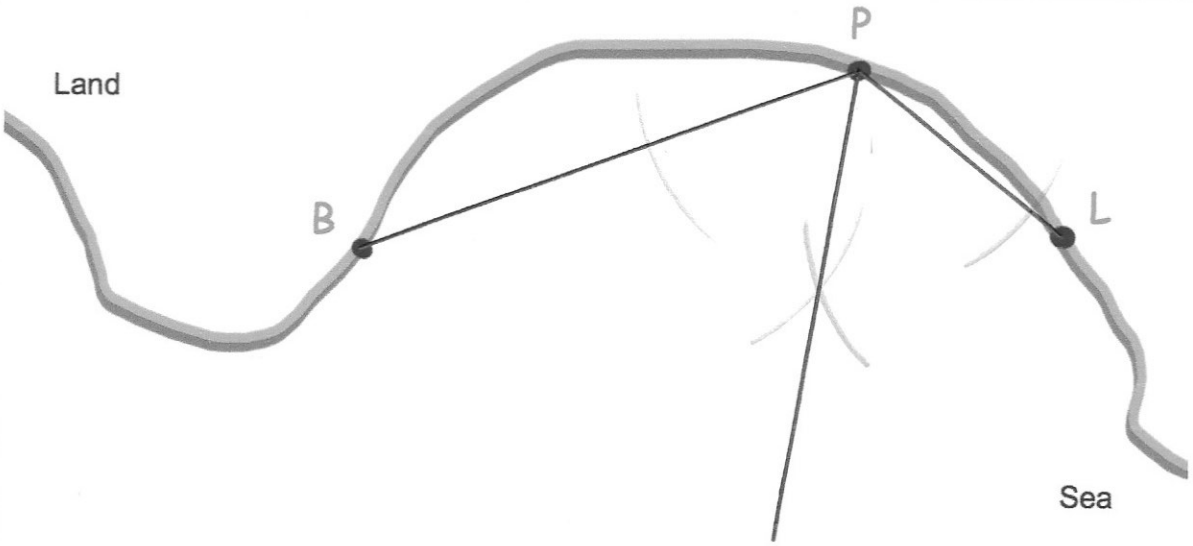
$144°$

Expand and simplify

$(y-8)(y-8)$

$y^2 - 8y - 8y + 64$

$y^2 - 16y + 64$



A yacht leaves the port, P, on a course that is an equal distance from PB and PL.
Using ruler and compasses only, construct the course on the diagram.

Solve the simultaneous equations

$2x - 5y = 85$

$x - 5y = 65$ sub

$x = 20$

$20 - 5y = 65$

$-5y = 45$

$y = -9$

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

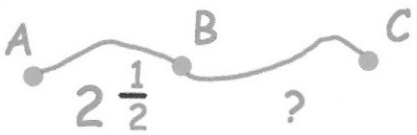
Corbettmaths

Solve

$y^2 + 6y + 9 = 0$

$(y + 3)(y + 3) = 0$

$y = -3$



The distance from A to C is

$3\frac{2}{3}$ miles

What is the distance from B to C?

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

$\frac{11}{3} - \frac{5}{2}$

$\frac{22}{6} - \frac{15}{6}$

$\frac{7}{6} = 1\frac{1}{6}$ miles

3 small cards have a mean length of 8cm.
8 medium cards have a mean length of 11cm.
9 large cards have a mean length of 20cm.

Is the mean length of all 20 cards greater than 15cm?

$3 \times 8 = 24$

$8 \times 11 = 88$

$9 \times 20 = 180$

292

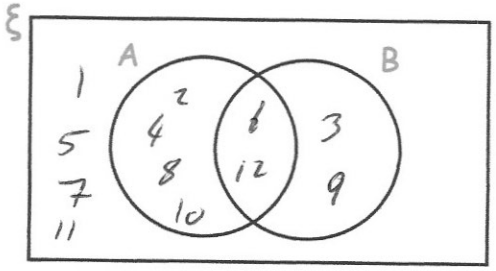
$292 \div 20$

$= 14.6$ cm

No

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

Draw a Venn diagram for this information.



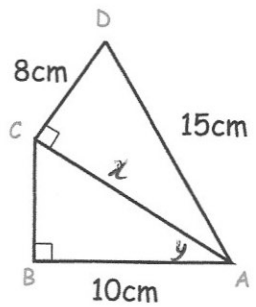
Find angle BAC.

$x^2 + 8^2 = 15^2$

$x^2 = 161$

$x = 12.688...$

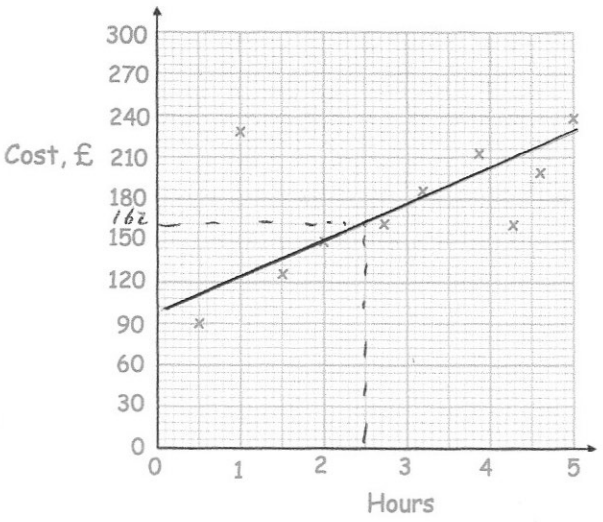
$\cos y = \frac{10}{12.68...}$ $y = 37.99°$



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

Corbettmaths

Mrs Hughes is a plumber.
The scatter graphs shows the cost and length of her last 10 jobs.



For one job Mrs Hughers needed to replace an expensive part that she fitted quickly.

How long did that job last?

1 hour.

Estimate the cost of a job lasting 2.5 hours.

£162

Work out

$6 \times 6^0 \times 6^{-1}$

$6 \times 1 \times \frac{1}{6} = 1$

Factorise fully

$8y^2 + 10y$

$2y(4y + 5)$

Factorise

$w^2 - 9$

$(w - 3)(w + 3)$

Work out the size of each interior angle for a regular octagon.

$360 \div 8 = 45$

$180 - 45 = 135°$

Work out the size of each interior angle for a regular 20 sided polygon.

$360 \div 20 = 18$

$180 - 18 = 162$

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

Corbettmaths

Work out

$\left(2\frac{1}{2}\right)^2$ $\left(\frac{5}{2}\right)^2 = \frac{25}{4}$

or $6\frac{1}{4}$

Calculate the density of block of metal with volume 40cm³ and mass 220g

$d = \frac{m}{v}$

$\frac{220}{40} = 5.5 g/cm^3$

Solve the inequality $3(x - 4) \leq 18$

$3x - 12 \leq 18$

$3x \leq 30$

$x \leq 10$

A line has equation $y = 3x - 12$

Write down the point where the line crosses the y-axis.

$(0, -12)$

Write down the point where the line crosses the x-axis.

$0 = 3x - 12$

$12 = 3x$

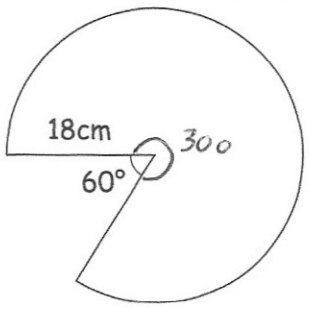
$x = 4$

$(4, 0)$

Find the perimeter of the sector.

$\frac{300}{360} \times \pi \times 36 + 18 + 18$

$= 130.248 cm$



27th September **Foundation Plus 5-a-day**

Corbettmaths

Write 75 as a product of primes.

75

(3) 25

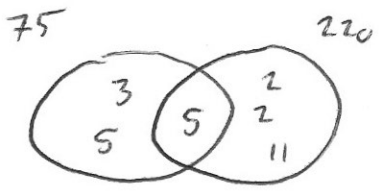
(5) (5)

$3 \times 5 \times 5$ or 3×5^2

$75 = 3 \times 5 \times 5$

$220 = 2 \times 2 \times 5 \times 11$

Work out the LCM of 75 and 220.

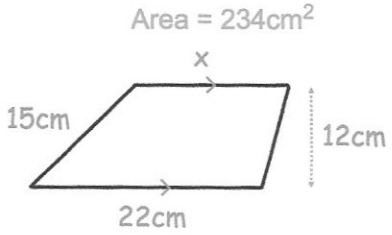


$3 \times 5 \times 5 \times 2 \times 2 \times 11 = 3300$

Work out the HCF of 75 and 220.

5

Find x



$\frac{1}{2}(x + 22) \times 12 = 234$

$6(x + 22) = 234$

$x + 22 = 39$

$x = 17$ cm

An empty bucket weighs 800g.
The weight of the bucket increases to 2.1kg when filled with water.

$2100 - 800 = 1300$

$\frac{1300}{800} \times 100 = 162.5$

Calculate the percentage increase in the weight of the bucket.
Give your answer to two significant figures.

160 %

Solve

$$\frac{11 - w}{5} = 3 + w$$

$11 - w = 15 + 5w$

$-4 = 6w$

$w = -\frac{2}{3}$

28th September **Foundation Plus 5-a-day**

Corbettmaths

What is the reciprocal of 8?

$\frac{1}{8}$

What is the reciprocal of 0.4? $\frac{2}{5}$

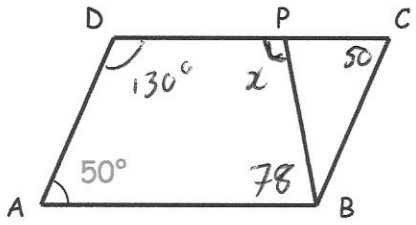
$\frac{5}{2}$

ABCD is a parallelogram
The ratio of angle PBA to angle PBC is 3 : 2. $3+2=5$
Find the size of angle BPD.

$130 \div 5 = 26$

26×3

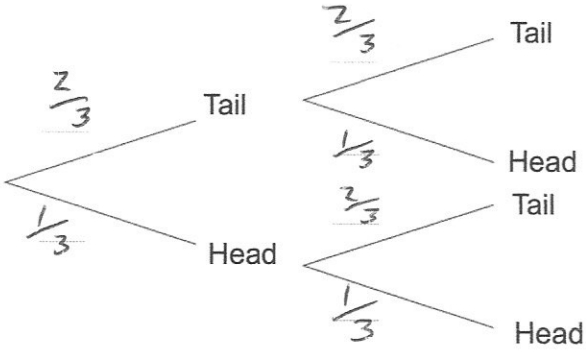
$360 - 130 - 50 - 78 = 102°$



A biased coin is flipped twice.

The probability of getting tails is $\frac{2}{3}$

Complete the tree diagram.



Find the probability of getting two heads.

$\frac{1}{3} \times \frac{1}{3} = \frac{1}{9}$

A square-based pyramid has a base with side length 15cm.
The perpendicular height of the pyramid is 10cm.

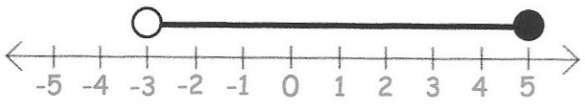
Calculate the volume of the pyramid.

$V = \frac{1}{3} \times 15 \times 15 \times 10$

$= 750 \text{ cm}^3$

29th September **Foundation Plus 5-a-day**

Corbettmaths



Write down the inequality shown

$-3 < x \leq 5$

Solve $5x + 1 > 9x + 3$

$-2 > 4x$

$-0.5 > x$

$x < -0.5$

Last year Kezia paid £160 for her home insurance. This year it has risen to £500.

$500 - 160 = 340$

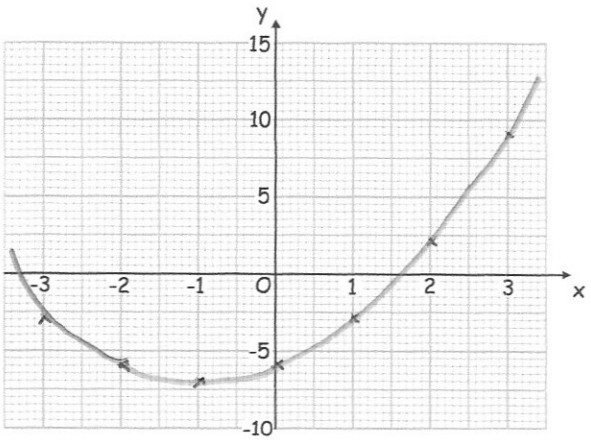
Work out the percentage increase in the price of her home insurance.

$\frac{340}{160} \times 100$

$= 212.5\%$

Complete this table of values for $y = x^2 + 2x - 6$

x	-3	-2	-1	0	1	2	3
y	-3	-6	-7	-6	-3	2	9

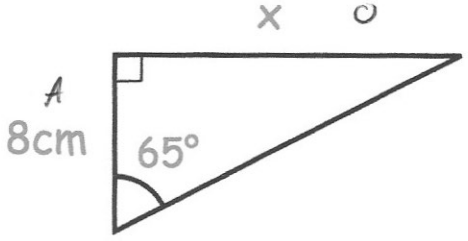


On the grid, draw the graph of $y = x^2 + 2x - 6$

Find x

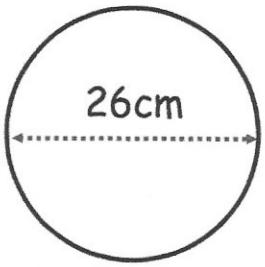
$\tan(65) \times 8$

$= 17.156\text{ cm}$



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

Corbettmaths



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

$\pi \times 13^2$

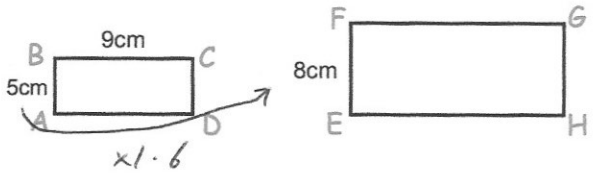
169π cm^2

Work out 0.773×0.54

$$\begin{array}{r} 773 \\ \times\ 54 \\ \hline 3092 \\ +\ 38650 \\ \hline 41742 \end{array}$$

0.41742

Not drawn accurately



Rectangles *ABCD* and *EFGH* are similar.

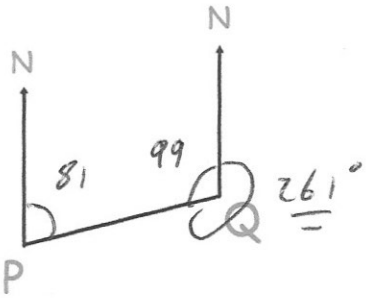
Work out the length of FG.

$9 \times 1.6 = 14.4$ cm

The bearing of Q from P is 081°

Find the bearing of P from Q.

$360 - 99 = 261°$



6.1154 has been truncated to four decimal places.

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

$6.1154 \leq x < 6.1155$