Corbettmαths

GCSE Higher
100 Days to Go
Revision Book

100 Days to Go

How to Use

Revision Cards

Revision Resources

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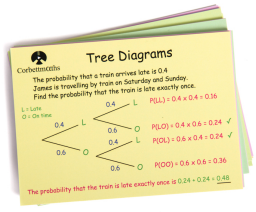
Answers

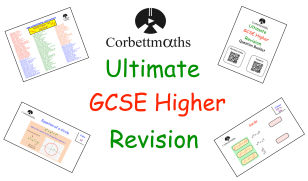
Useful Resources

Revision Cards

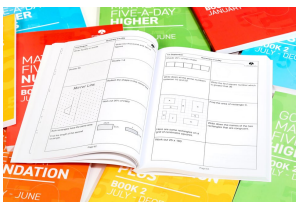


Checklist

Ultimate Revision Video



5-a-day Books



Corbettmaths

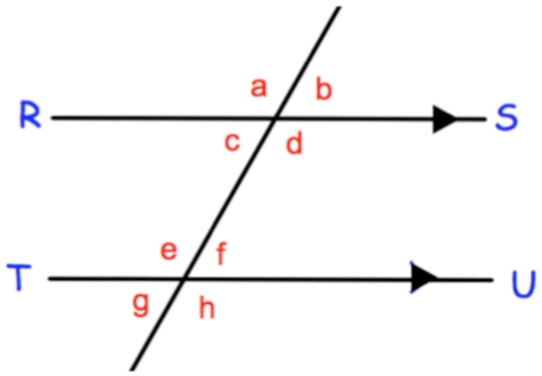
Angles: Parallel Lines

100 Days to Go

100 Days to Go Video

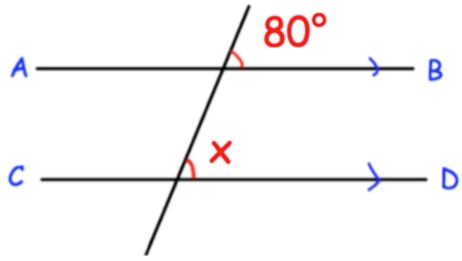
Revision Card Number: 1

Video Number: 25



Which angle is corresponding to h?

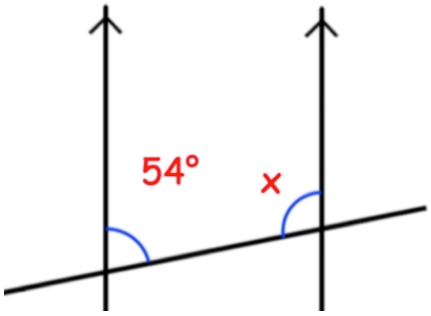
Which angle is alternate to c?



AB is parallel to CD.

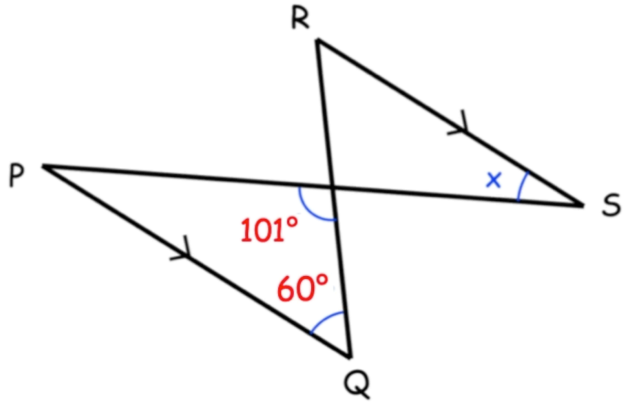
Work out the size of x

Give a reason for your answer



Work out the size of x

Give a reason for your answer



PQ and RS are parallel.

Work out the value of x

Corbettmaths

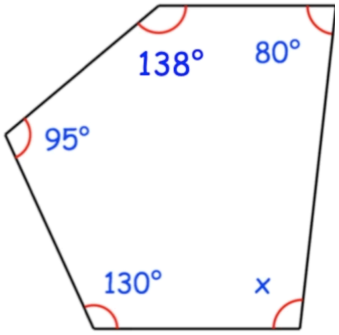
Angles in Polygons

99 Days to Go

99 Days to Go Video

Revision Card Numbers: 2 & 3

Video Number: 32



Find x

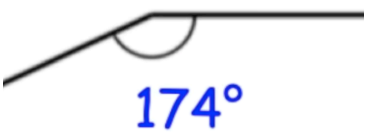
Find the sum of the interior angles of a 9 sided polygon.

The sum of the interior angles of a polygon is 3960°
How many sides does it have?

Find the size of each interior angle of a regular pentagon.

Work out the size of each exterior angle of a 15 sided regular polygon.

Work out the size of each interior angle of a 15 sided regular polygon.



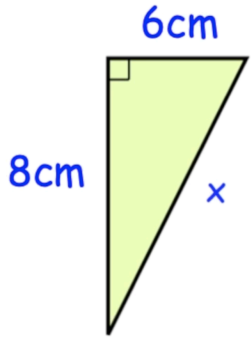
Shown is an interior angle from a regular polygon.
Calculate the number of sides the polygon has.

98 Days to Go Video

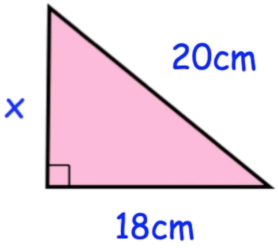
Revision Card Number: 64

Video Numbers: 257 to 263

Find x

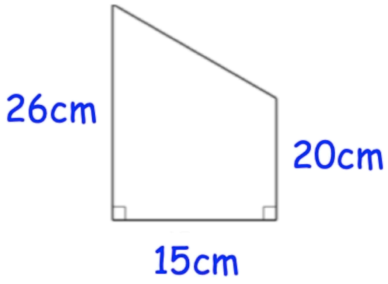


Find x



Alison draws a triangle with side lengths 8cm, 15cm and 17cm.
Is the triangle right angled?

Find the perimeter of the trapezium.



Corbettmaths

Area: Circles and Sectors

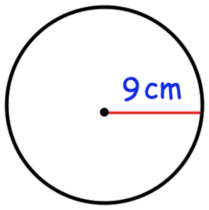
97 Days to Go

97 Days to Go Video

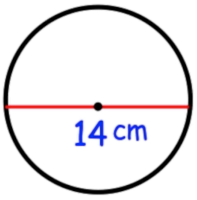
Revision Card Numbers: 5, 6

Video Numbers: 40, 46

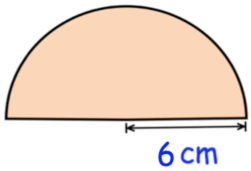
Find the area



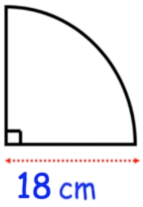
Find the area



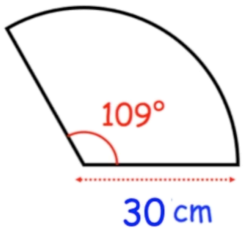
Find the area



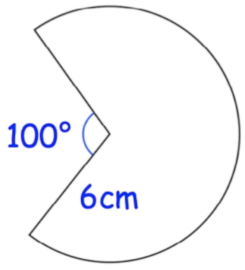
Find the area

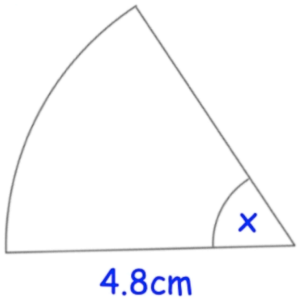


Find the area



Find the area



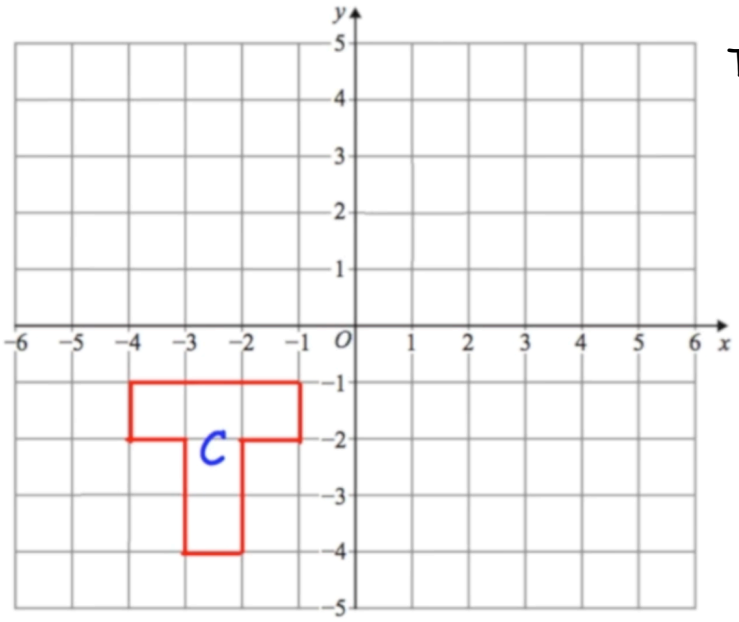


The sector has an area of $11cm^2$
Work out the size of angle x.

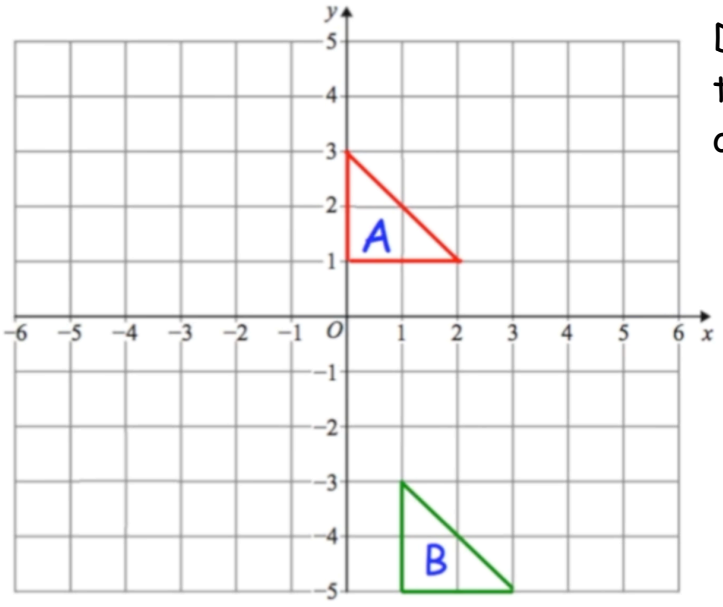
96 Days to Go Video

Revision Card Numbers: 79, 81

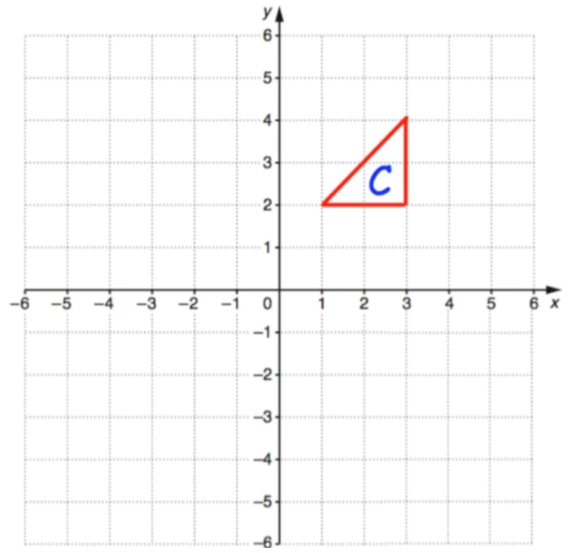
Video Numbers: 272, 325



Translate C by $\begin{pmatrix} -1 \\ 4 \end{pmatrix}$

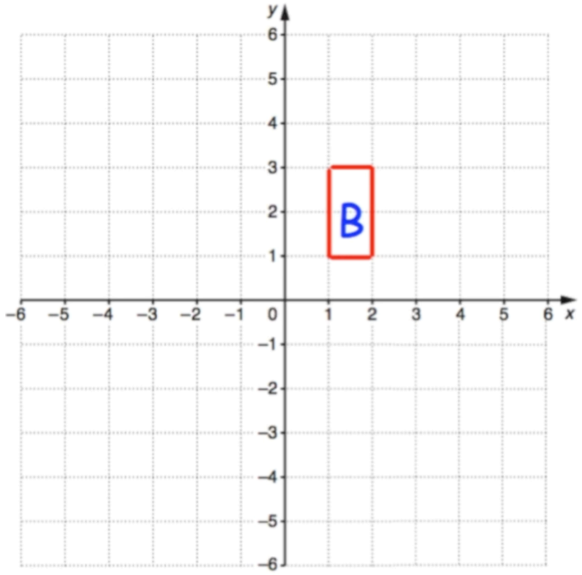


Describe fully the single transformation that maps A onto B.

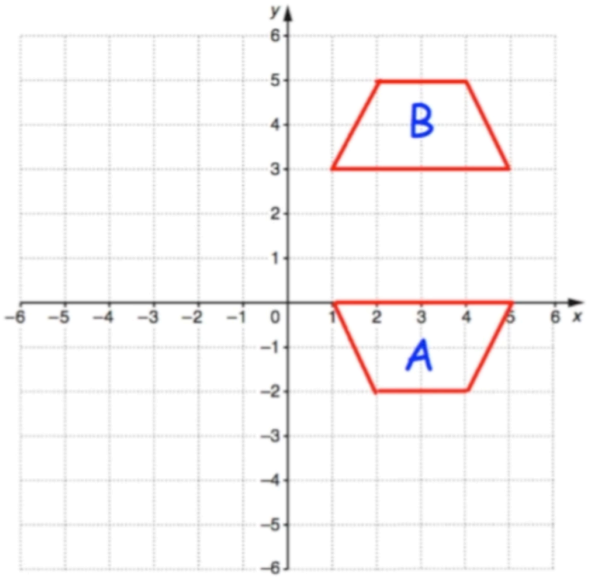


Reflect C in the line x = -1
Label the new triangle D

Reflect C in the line y = 1
Label the new triangle E



Reflect B in the line y = -x



Describe fully the single transformation that maps A onto B.

Corbettmaths

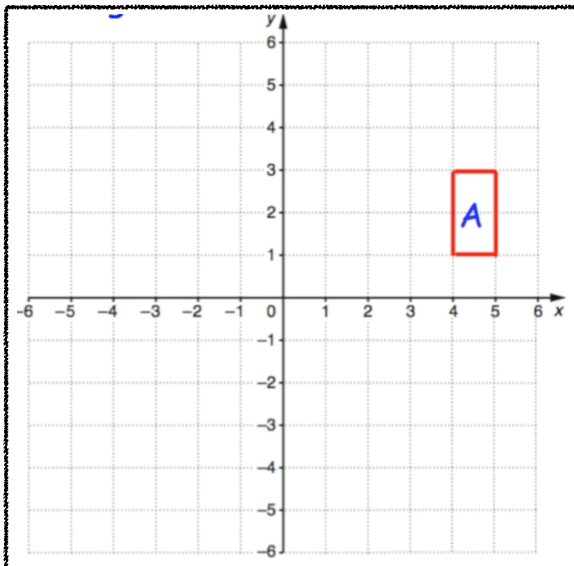
Rotations

95 Days to Go

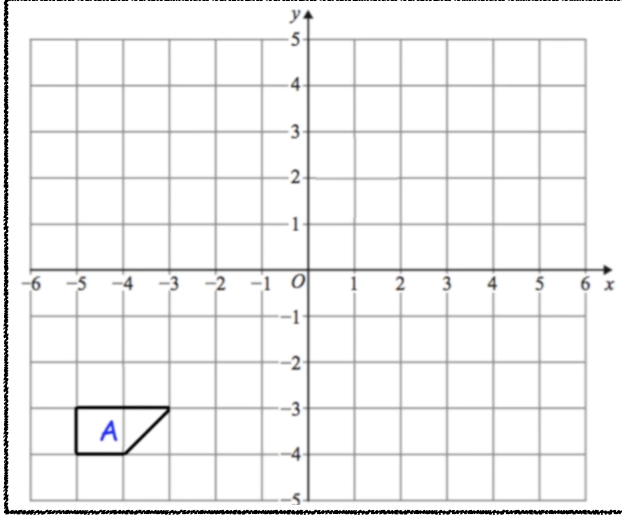
95 Days to Go Video

Revision Card Number: 80

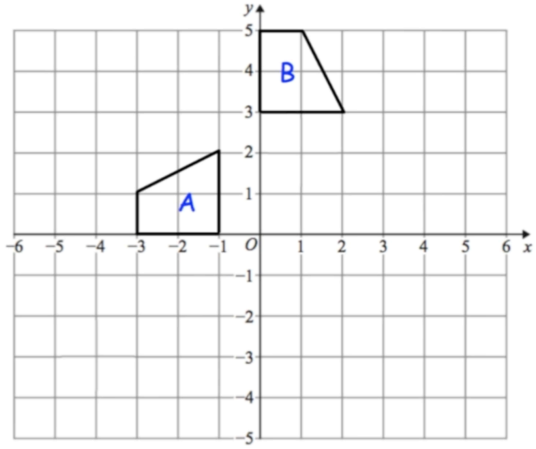
Video Number: 275



Rotate A 90° anticlockwise about the point (2, -1)



Rotate A 180° about the point (-1, -2)



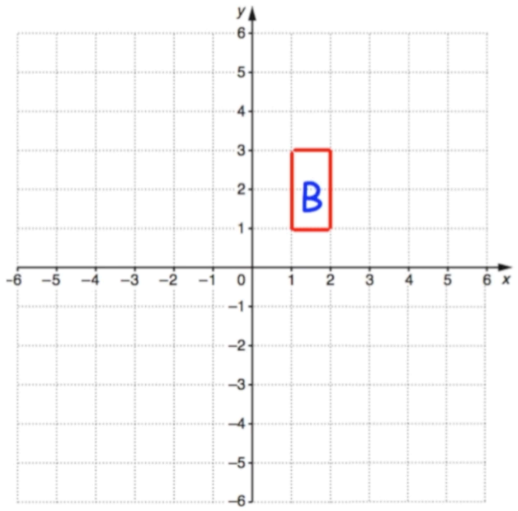
Describe fully the single transformation that maps B onto A.

Enlargements

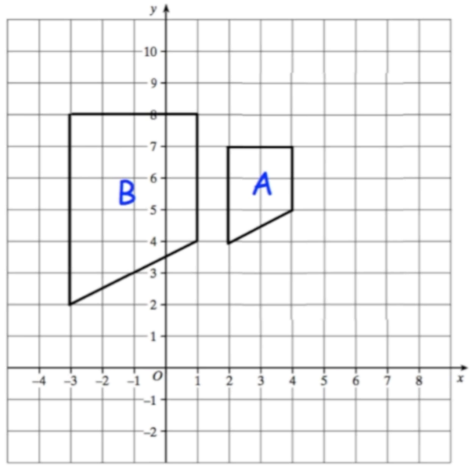
94 Days to Go Video

Revision Card Numbers: 77, 78

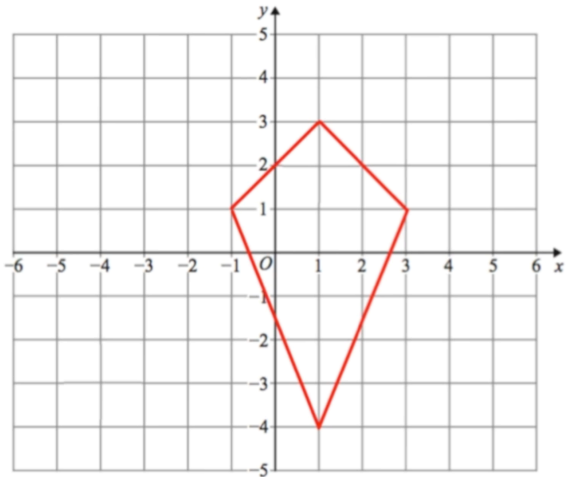
Video Numbers: 104a, 108



Enlarge B by scale factor 3 using (3, 4) as the centre of enlargement.

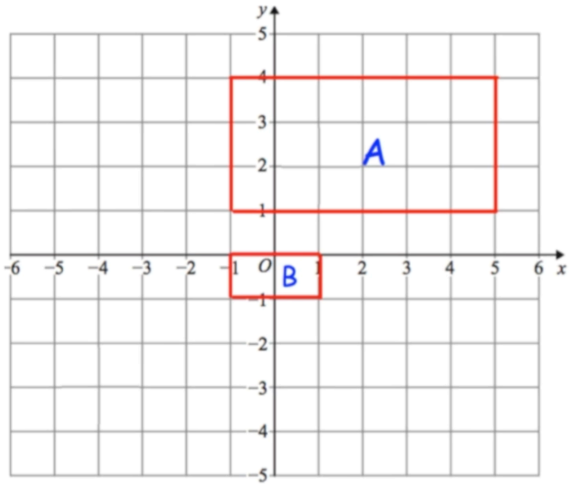


Describe fully the single transformation that maps A onto B.

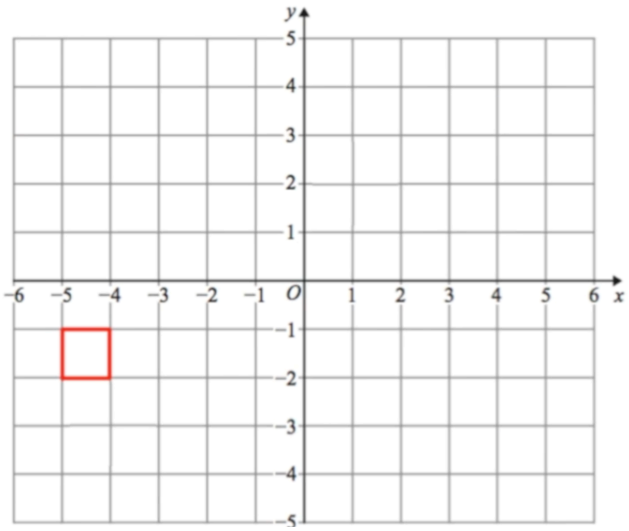


Enlarge by scale factor $\frac{1}{2}$ using (-5, -5) as the centre of enlargement.

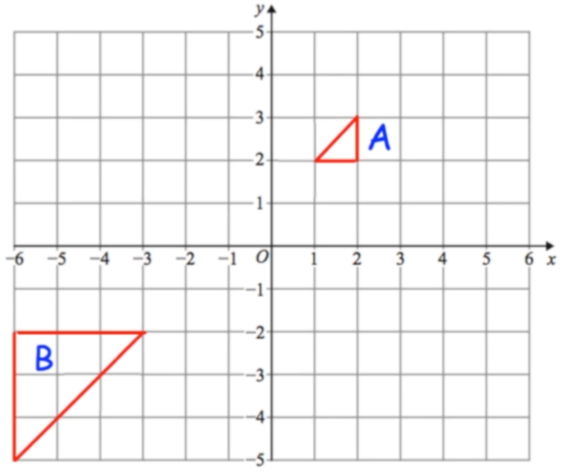
Enlargements



Describe fully the single transformation that maps A onto B.



Enlarge by scale factor -2 using (-2, -1) as the centre of enlargement.



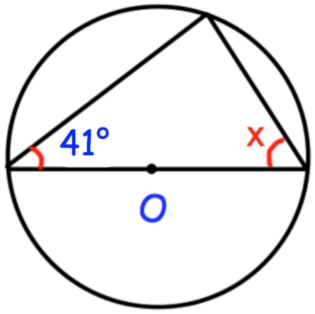
Describe fully the single transformation that maps A onto B.

93 Days to Go Video

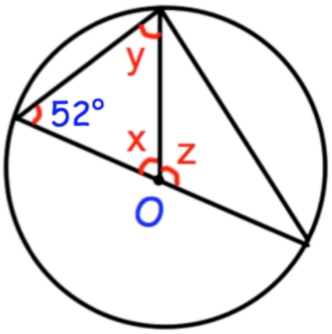
Revision Card Numbers: 11, 12

Video Numbers: 64, 65

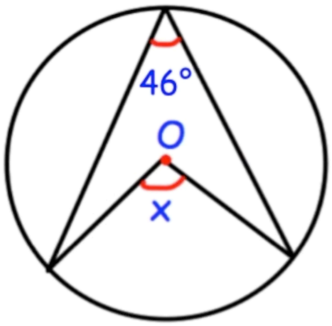
Find x



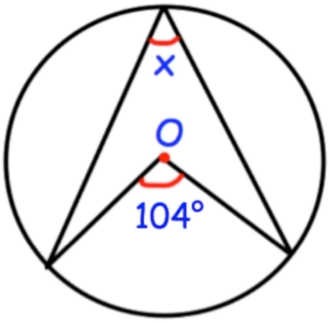
Find x, y and z



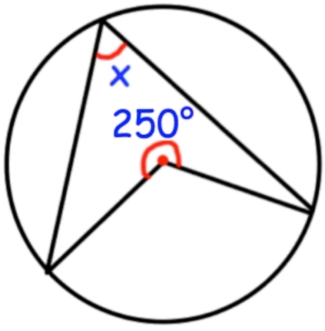
Find x



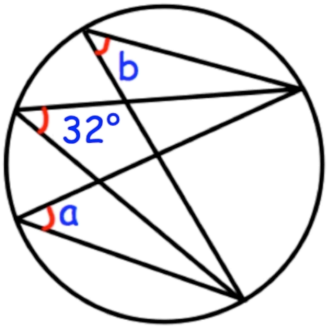
Find x



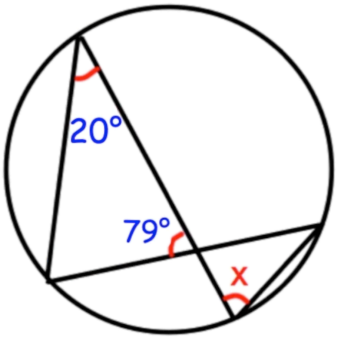
Find x



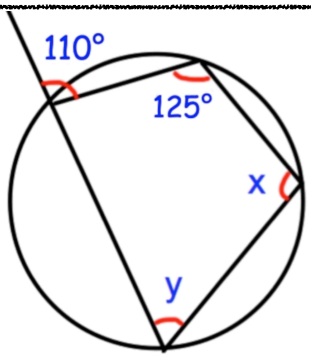
Find a and b



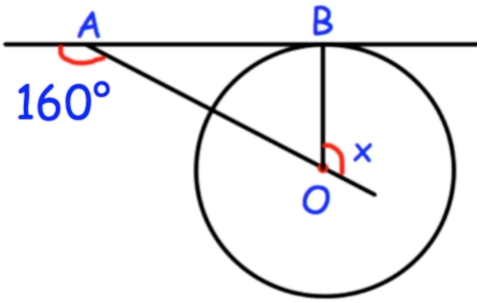
Find x



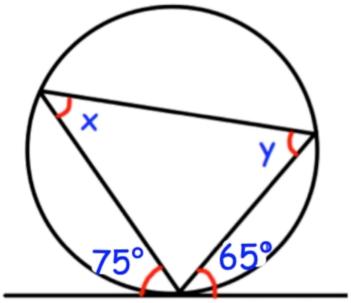
Find x and y



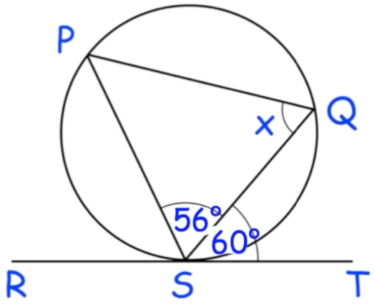
Find x



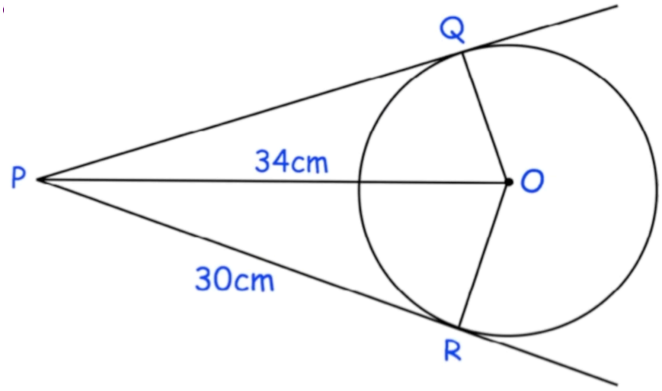
Find x and y



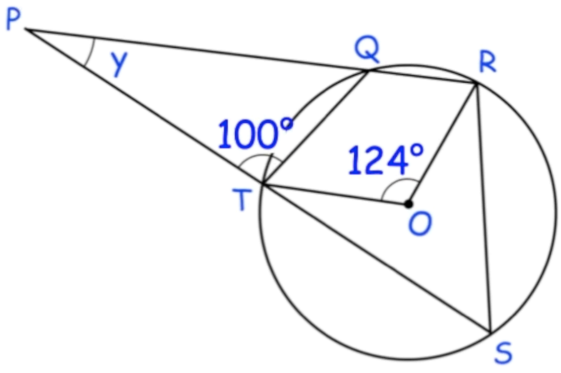
Find x



Find the length of OQ



Find y

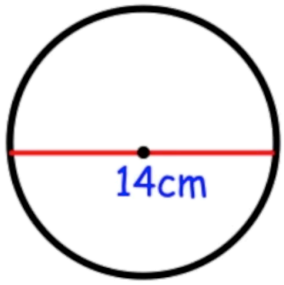


92 Days to Go Video

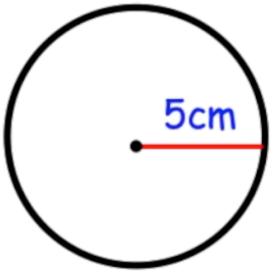
Revision Card Numbers: 4, 14

Video Numbers: 58, 60

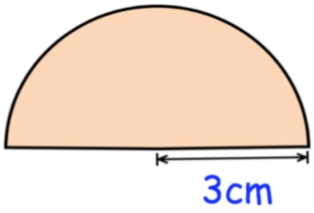
Find the circumference



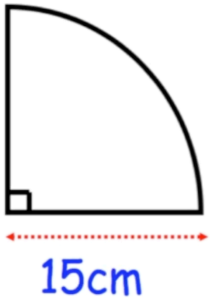
Find the circumference



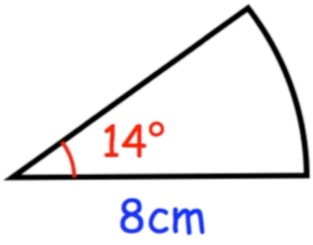
Find the perimeter



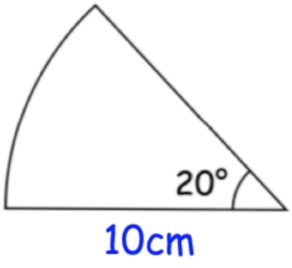
Find the perimeter



Find the perimeter



Find the perimeter

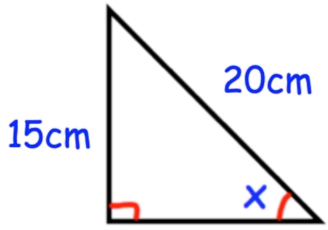


91 Days to Go Video

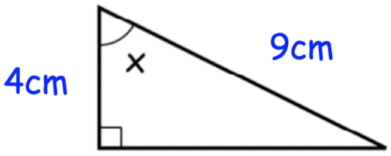
Revision Card Number: 82

Video Numbers: 329, 330, 331

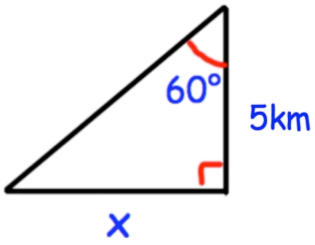
Find x



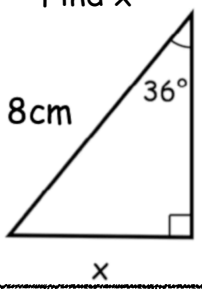
Find x



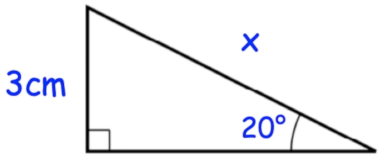
Find x



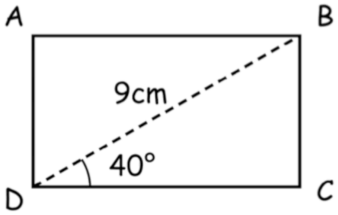
Find x



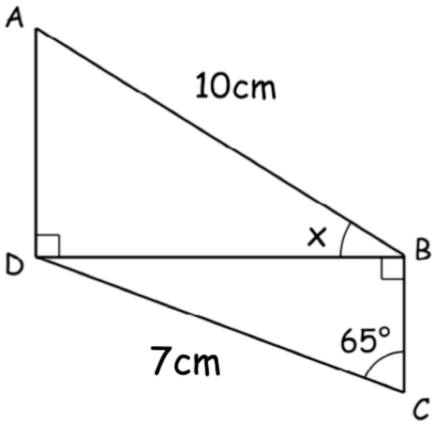
Find x



Find the length of DC and find the area of ABCD



Find x



90 Days to Go Video

Revision Card Numbers: 29, 30, 31

Video Numbers: 133, 134, 142

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

$1\frac{1}{2} + 2\frac{5}{8}$

$\frac{3}{4} + \frac{1}{6}$

$5\frac{7}{10} + \frac{3}{4}$

$\frac{6}{11} - \frac{1}{2}$

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

Estelle runs $3\frac{4}{5}$ miles in week 1.

She runs $5\frac{2}{3}$ miles in week 2.

How far does Estelle run in total?

$\frac{3}{4} \times \frac{2}{5}$

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

$\frac{3}{10} \div \frac{2}{5}$

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

$\frac{7}{15} \div \frac{3}{4}$

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

89 Days to Go Video

Revision Card Number: 61

Video Numbers: 223, 224

Write 50 as a product of primes.
Give your answer in index form.

A number, m, written as a product of primes is 2×3^2

What number is m?

Write 10m as a product of primes.

Given that $280 = 2^3 \times 5 \times 7$
Find the lowest whole number that would be needed to be multiplied by to give a square number.

Write 92 as a product of primes.
Give your answer in index form.

Use your calculator to write 48 as a product of primes in index form.

Work out the HCF and LCM of 48 and 92.

Work out the HCF and LCM of 36 and 60.

Corbettmaths

Percentage Change

88 Days to Go

88 Days to Go Video

Revision Card Number: 55

Video Number: 233

Last season York City sold 3200 season tickets.
This season York City sold 3800 season tickets.

Work out the percentage increase.

The height of a plant increases from 40cm to 52cm.
Work out the percentage increase.

Finn bought a TV for £250
Two years later, he sold the TV for £198

Work out the percentage loss.

Recurring Decimals

87 Days to Go Video

Revision Card Number: 23

Video Number: 96

Write 0.01818… as a fraction.

Write $1.\dot{4}0\dot{8}$ as a fraction.

Write 0.5242424… as a fraction.

Corbettmaths

Compound Interest

86 Days to Go

86 Days to Go Video

Revision Card Number: 56

Video Number: 236

Use multipliers to:

Increase 500 by 8%

Increase 3500 by 13%

Use multipliers to:

Decrease 3000 by 2%

Decrease 8000 by 24%

Jenny invested £7000 in the bank for 4 years.
It earns compound interest of 2.5% per year.
Calculate the total amount Jenny has in the bank at the end of 4 years.

The value of a car decreases 5% each year.
Sophie bought a car two years ago for £10000
Work out the value now.

The population of squirrels on an island in 2010 was 4000
Each year the population increased by 18%
In what year did the population first exceed 10000?

Corbettmaths

Reverse Percentages

85 Days to Go

85 Days to Go Video

Revision Card Number: 57

Video Number: 240

The population of Sandcliff has decreased by 2% over the past year
The population of Sandcliff this year is 8036
Calculate the population of Sandcliff last year

A box contains red and yellow marbles.
30% of the marbles in the box are yellow.
There are 60 yellow marbles in the box.
Work out the total number of marbles in the box.

The number of visitors to a museum increased 12.5% between 2022 & 2023
The number of visitors in 2023 was 39375
Calculate the number of visitors in 2022

Indices

84 Days to Go Video

Revision Card Numbers: 42, 43, 44

Video Number: 173, 174, 175

Work out

2^{-4} 11^{-2}

Work out

$144^{\frac{1}{2}}$ $125^{\frac{1}{3}}$

Work out

$9^{\frac{3}{2}}$ $1000^{\frac{2}{3}}$

Work out

$36^{-\frac{1}{2}}$ $8^{-\frac{2}{3}}$

$y^8 \times y^3 = y$ ☐ $y^{15} \div y^5 = y$ ☐ $(y^6)^2 = y$ ☐

Write $\frac{m^3 \times m^2}{(m^7)^2}$ as a single power of m

Simplify

$(2m^4)^3$

Simplify

$(16x^8)^{\frac{3}{4}}$

Work out

2^{-6} $9^{\frac{5}{2}}$ $64^{-\frac{2}{3}}$

83 Days to Go Video

Revision Card Number: 74

Video Numbers: 300 to 303

Write these numbers in standard form

7000 0.0000004

2500000 0.018

Write these numbers in standard form

30000 0.002

1800 0.000495

Write as ordinary numbers

2.7×10^4 8×10^{-2}

5.134×10^7 1.04×10^{-5}

Write in standard form

0.0013×10^8

Work out, giving your answer in standard form.

$(8.2 \times 10^5) - (9.7 \times 10^4)$

Work out, giving your answer in standard form.

$(5 \times 10^7) \times (7 \times 10^2)$

On a calculator, work out

$(1.47 \times 10^6) \times (9 \times 10^4)$

$$\frac{3.5 \times 10^5}{5 \times 10^{-2}}$$

An asteroid travels at 80 kilometres per second.
How far does the asteroid travel in one day?
Give your answer in metres and in standard form.

82 Days to Go Video

Video Numbers: 210, 214a, 53a

Regular Pack: 6 biscuits for 78p
Large Pack: 8 biscuits for £1
Which packet is better value for money?

A 200g jar of coffee costs £7.40
A 320g jar of coffee costs £12.16
Which jar is better value for money?

Candles normally cost £9 each.
Two websites have special offers

Corbett Candles
Buy 3 get 1 free

Candle World
20% off

Matty wants to buy 14 candles.
Which website should he use?

Nicola went to Italy.
£1 = €1.40
Change £900 into euros.

A watch costs €105
How much is that in pounds?

A 200g bar of chocolate in Wales costs £3.20
A 300g bar of the same chocolate in France costs €5.70
The exchange rate is £1 = €1.20
Is the chocolate better value in Wales or France?

There are 25 students in Class A and 15 students in Class B.
The mean test score for Class A is 80
The mean test score for Class B is 60
Work out the mean for all 40 students.

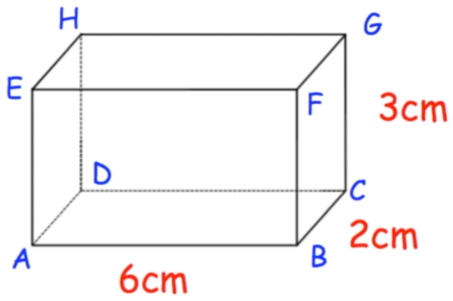
There are 30 students in Class A and 20 students in Class B.
The mean test score for Class A is 43
The mean for all 50 students is 48
Calculate the mean test score for Class B

81 Days to Go Video

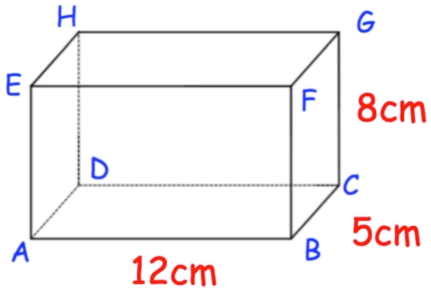
Revision Card Numbers: 64, 82

Video Numbers: 259, 332

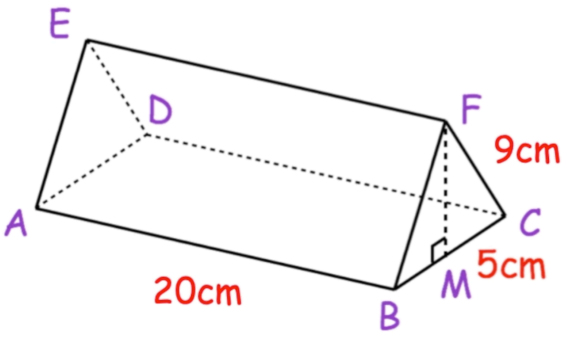
Find the length of AG



Find the size of angle CAG



Find the length of AC



Find the length of EM

Find the size of angle MDF

80 Days to Go Video

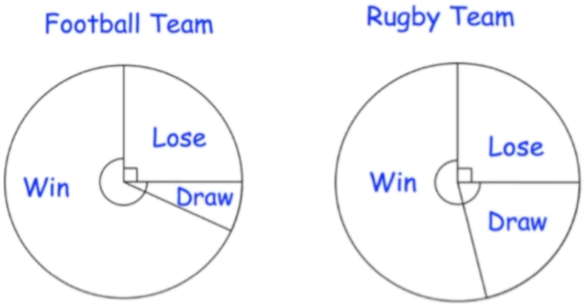
Revision Card Number: 58

Video Numbers: 163, 164, 319

Find the size of each angle for a pie chart.

Colour	Frequency
Red	17
White	20
Silver	2
Black	15
Blue	6

100 families go on holiday in July & August.
59 families go on holiday in August.
19 of the 35 families go to France in July.
30 families go to Portugal.
20 families go to Spain in August.
Find the probability a family picked at random go to Portugal in July.



The rugby team and football team both lost a quarter of their matches?
True/False/Cannot Tell

The rugby team won more matches than they lost
True/False/Cannot Tell

The football team won more matches than the rugby team.
True/False/Cannot Tell

The rugby team drew a larger proportion of their matches than the football team.
True/False/Cannot Tell

The football team played 10 games last season.
True/False/Cannot Tell

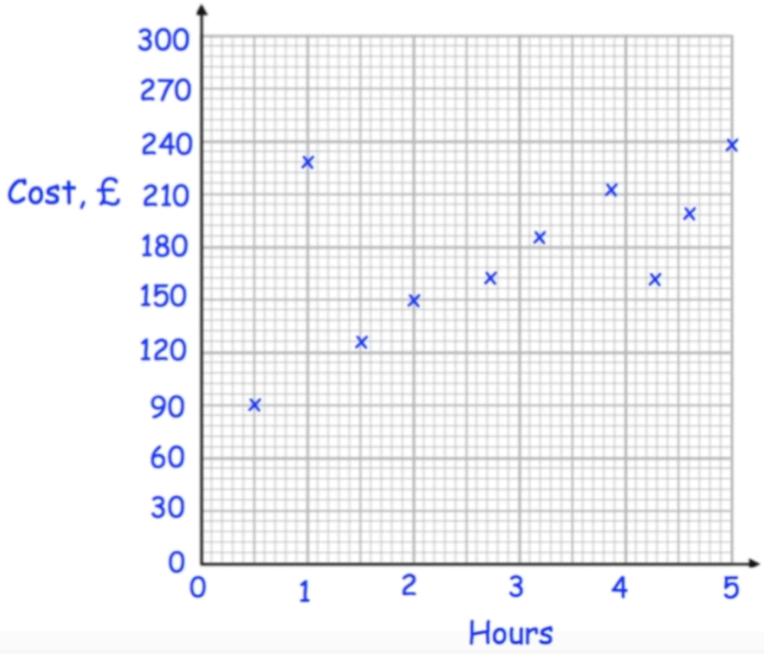
There are 147 students in Year 11.
Each student studies French, Spanish, German or Welsh.
41 of the 50 students studying Welsh go on a trip.
Out of the 37 students studying French, 3 more are **not going** on the trip than are **going**.
4 out of the 15 students studying Spanish are not going on the trip.
Twice as many students studying German are not going on the trip than are.
How many Year 11 students are going on the trip?

Scatter Graphs

79 Days to Go Video

Revision Card Number: 69

Video Numbers: 165 to 168



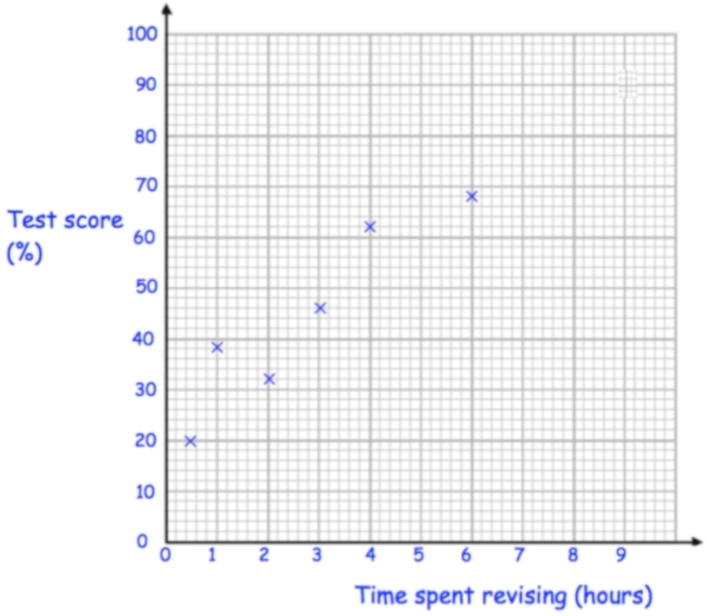
What type of correlation is shown?

Draw a line of best fit.

Estimate the cost of a job lasting 2.5 hours.

Estimate the duration of a job costing £180

Circle the outlier.



Estimate the test score for a student who revised for 5 hours.

Explain why it may not be appropriate to use your line of best fit to estimate the test score of a student who revised for 9 hours.

Corbettmaths

Cumulative Frequency

78 Days to Go

78 Days to Go Video

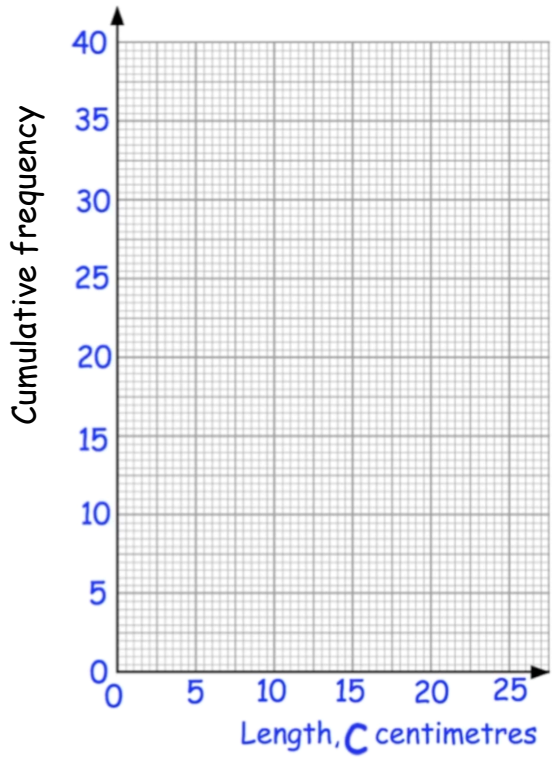
Revision Card Number: 21

Video Numbers: 153, 154

Complete the cumulative table and draw a cumulative frequency graph.

Length, C cm	Frequency
$0 < c \leq 5$	3
$5 < c \leq 10$	10
$10 < c \leq 15$	21
$15 < c \leq 20$	4
$20 < c \leq 25$	2

Length, C cm	Cumulative Frequency
$0 < c \leq 5$	
$0 < c \leq 10$	
$0 < c \leq 15$	
$0 < c \leq 20$	
$0 < c \leq 25$	



Use the graph to find an estimate of:

The median

The lower quartile

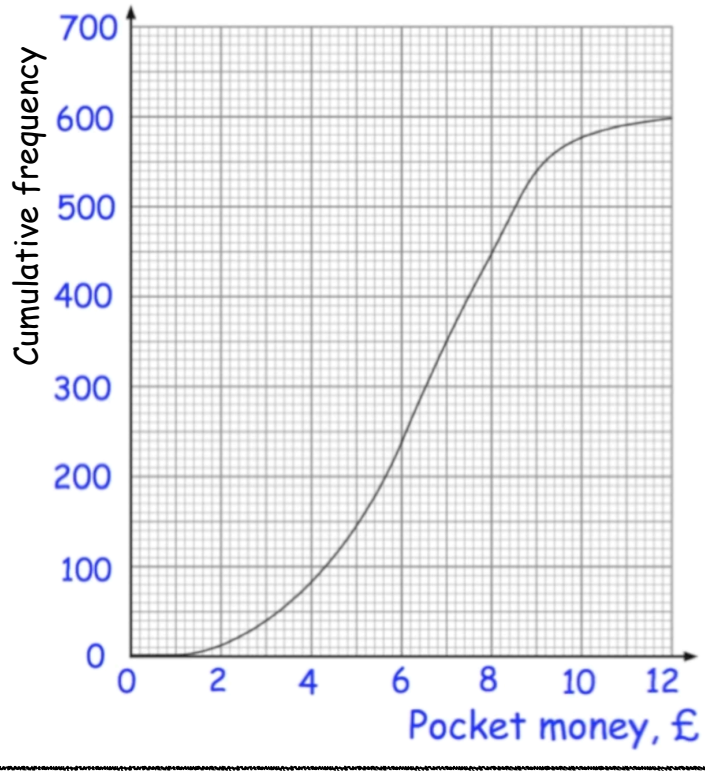
The upper quartile

The interquartile range

How many people earned less than £7

How many people earned more than £9

The amount of pocket money that 100 people received less than



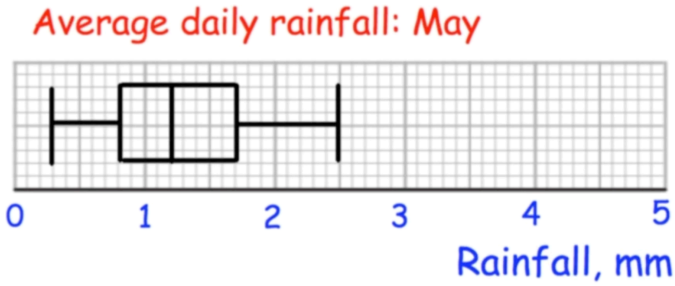
Box Plots

77 Days to Go Video

Revision Card Number: 22

Video Numbers: 149, 150

Write down the median

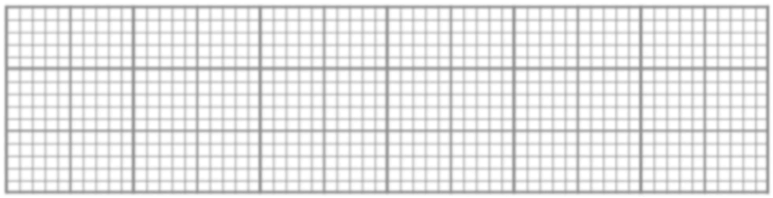


Find the range

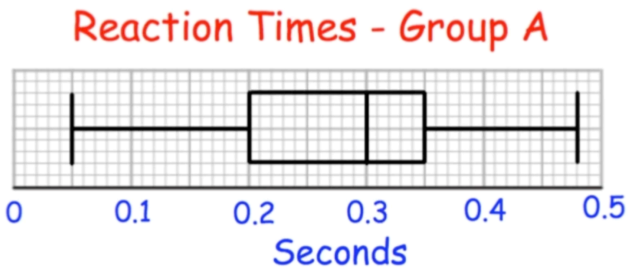
Find the interquartile

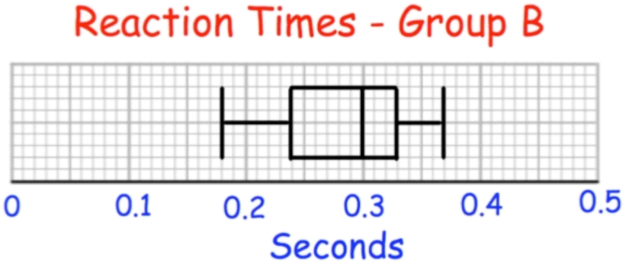
Lowest Value	6
Median	14
Upper Quartile	16
Range	20
Interquartile Range	5

Draw a box plot for this information



Compare the reactions times for Group A and Group B.





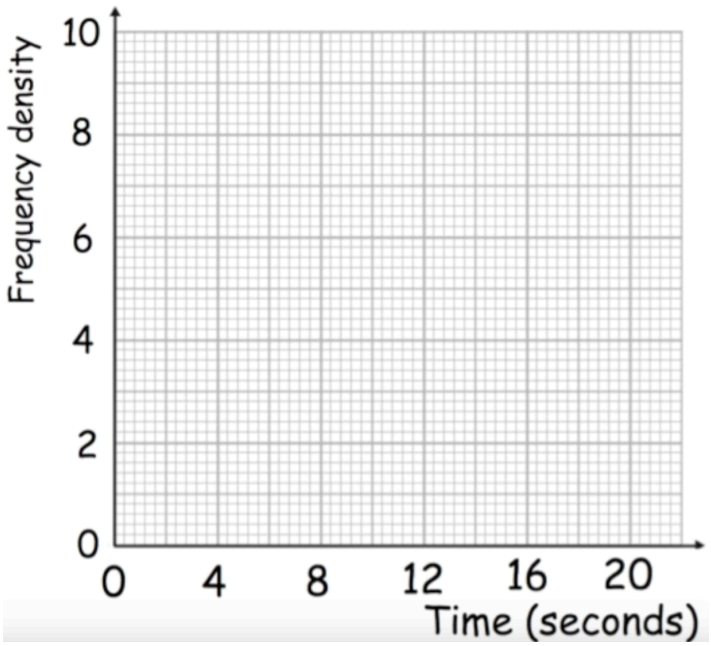
76 Days to Go Video

Revision Card Number: 40

Video Number: 157

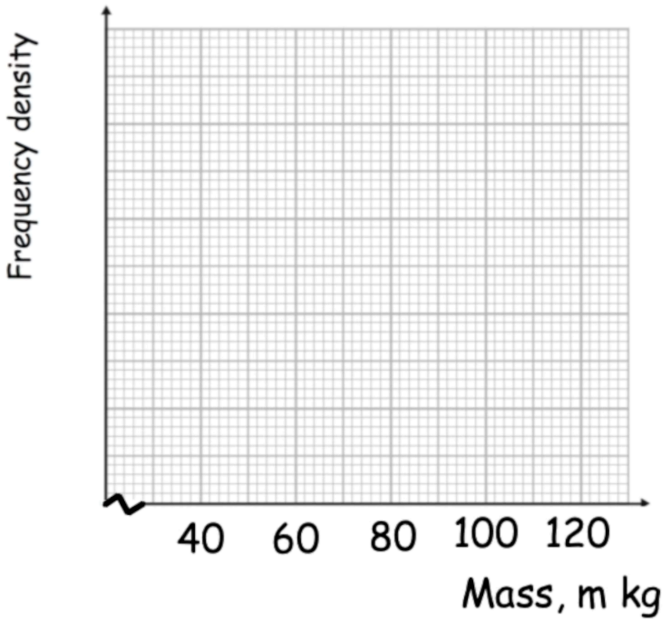
Draw a histogram for this data

Time, t seconds	Frequency
$0 \le t < 2$	10
$2 \le t < 4$	13
$4 \le t < 6$	18
$6 \le t < 10$	16
$10 \le t < 14$	8
$14 \le t < 20$	6



Draw a histogram for this data

Mass, m kg	Frequency
$40 \le m < 50$	4
$50 \le m < 60$	7
$60 \le m < 70$	13
$70 \le m < 85$	12
$85 \le m < 100$	3
$100 \le m < 120$	3



Corbettmaths

Reading Histograms

75 Days to Go

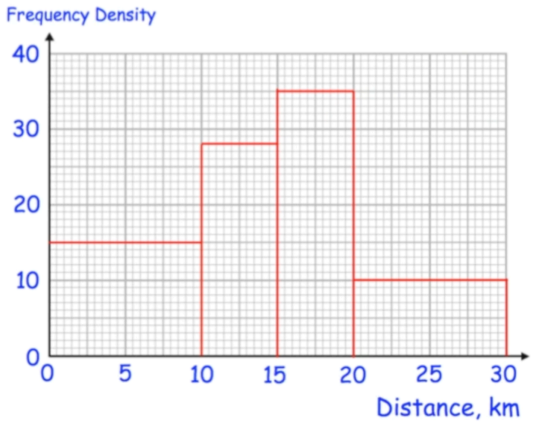
75 Days to Go Video

Revision Card Number: 41

Video Number: 158

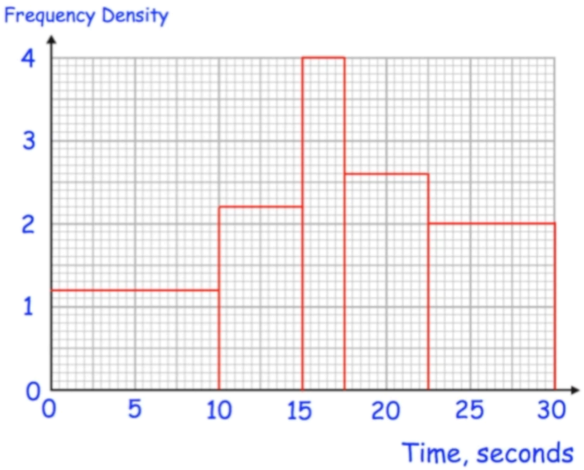
The histogram shows the distances 565 students travel to school. Find the missing frequencies.

Distance	Frequency
$0 < d \leq 10$	
$10 < d \leq 15$	
$15 < d \leq 20$	
$20 < d \leq 30$	

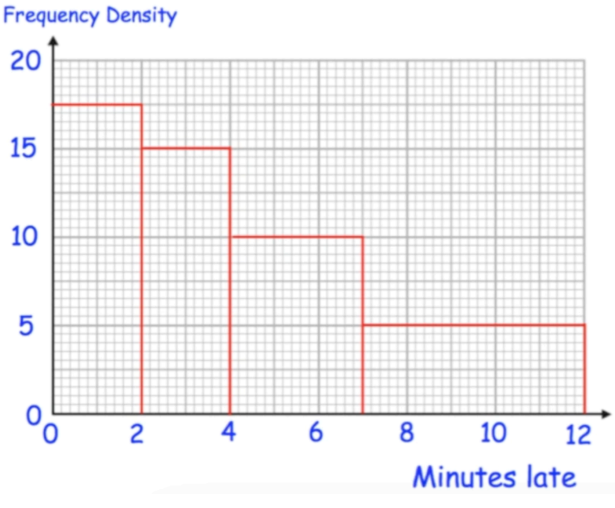


15 students took longer than 22.5 seconds. What fraction of the students took less than 10 seconds?

Estimate how many students took between 5 and 15 seconds.



Find an estimate for the median time late.

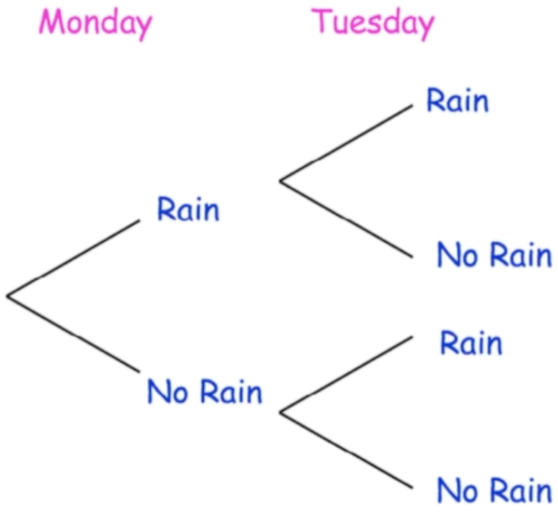


74 Days to Go Video

Revision Card Number: 59

Video Number: 252

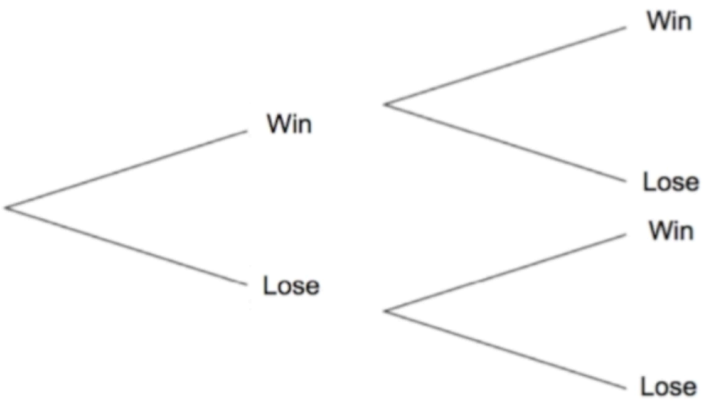
The probability of rain on Monday is 0.7
The probability of rain on Tuesday is 0.4
Complete the tree diagram.



Find the probability that it does not rain on either day.

Find the probability that it rains on exactly one day.

Norva plays two games.
The probability she wins the first game is $\frac{1}{3}$
The probability she loses the second game is $\frac{7}{8}$
Complete the tree diagram.



Find the probability that Norva wins both games.

Find the probability that Norva wins at least one game.

73 Days to Go Video

Revision Card Number: 71

Video Number: 247

A cafe has:
4 packets of salt and vinegar
5 packets of cheese and onion
1 packet of roast chicken
Bella takes two packets of crisps at random.

Find the probability that the packets are the same flavour.

A cafe has:
4 packets of salt and vinegar
5 packets of cheese and onion
1 packet of roast chicken
Bella takes two packets of crisps at random.

Find the probability that the packets are the different flavours.

Ethan has 10 coins.
There are three 10p coins and seven 20p coins.

Ethan chooses 3 coins at random.

Work out the probability that he takes exactly 50p.

72 Days to Go Video

Revision Card Number: 52

Video Number: 55

Work out an estimate for the mean price.

Price (£)	Frequency
$0 < x \leq 10$	2
$10 < x \leq 20$	6
$20 < x \leq 30$	9
$30 < x \leq 40$	3

Work out an estimate for the mean age.

Age (A years)	Frequency
$10 \leq A < 30$	12
$30 \leq A < 50$	20
$50 \leq A < 70$	16
$70 \leq A < 90$	2

Corbettmaths

Venn Diagrams

71 Days to Go

71 Days to Go Video

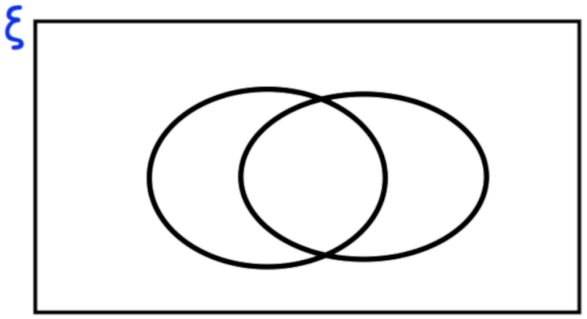
Revision Card Number: 87

Video Number: 380

In a class of 30 students:
20 play the piano
12 play the guitar
1 student plays neither.

How many students only play the guitar?

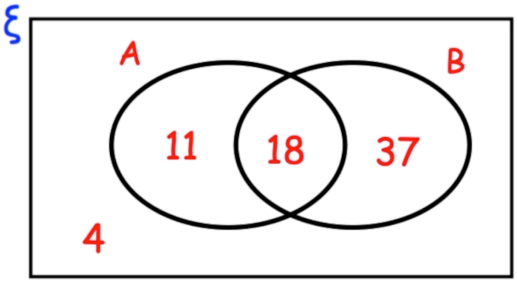
How many students play both instruments?



The Venn diagram shows information about the drink enjoyed by 70 people.

A person is chosen at random.

Find each of the following:



P(A) P(B) P(A')

P(B') P(A∪B) P(A∩B)

P(A'∪B) P(A∩B')

Corbettmaths

Changing the Subject

70 Days to Go

70 Days to Go Video

Revision Card Number: 10

Video Numbers: 7, 8

Make w the subject of $T = aw - c$

Make t the subject of $v = u + at$

Make y the subject of $w = \dfrac{y+2}{y}$

Make w the subject of

$$a(8 - w) = 5w + c$$

Make m the subject of $x = \dfrac{m-7}{m+2}$

Corbettmaths

Expanding Brackets

69 Days to Go

69 Days to Go Video

Revision Card Numbers: 26, 60

Video Numbers: 14, 15

Expand and simplify $(w + 4)(w + 8)$

Expand and simplify $(y - 9)(y + 5)$

Expand and simplify $(x - 2)^2$

Expand and simplify $(5x + 7)(2x - 3)$

Expand and simplify $(x - 1)(x + 4)(x + 6)$

Expand and simplify $(x - 1)(x - 3)(x - 7)$

68 Days to Go Video

Revision Card Numbers: 73

Video Number: 295

Solve the simultaneous equations

$3x + 2y = 23$
$2x - y = 6$

Solve the simultaneous equations

$5x - 3y = 33$
$3x - 9y = 63$

Solve the simultaneous equations

$5x + 3y = 22$
$2x + 4y = 20$

Solve the simultaneous equations

$2x + 2y = 14$
$5x - 3y = 19$

5 adult and 3 child tickets cost £98.50
2 adult and 8 child tickets cost £70
Find the cost of each type of ticket.

67 Days to Go Video

Revision Card Number: 27

Video Numbers: 118, 119, 266

Factorise $x^2 + 3x - 4$

Factorise $x^2 - 6x - 55$

Factorise $x^2 - 13x + 22$

Factorise $2x^2 + 15x - 38$

Factorise $8x^2 - 10x - 3$

Factorise $y^2 - 64$

Factorise $45x^2 - 80y^2$

Solve $x^2 + 11x + 28 = 0$

Solve $x^2 - 6x - 27 = 0$

Solve $3x^2 + x - 4 = 0$

Corbettmaths

Revision Tips

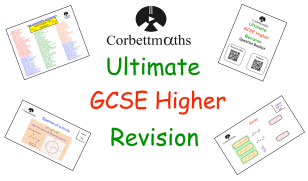
66 Days to Go

66 Days to Go Video

Tip 1:
Get all your equipment ready and prepare a folder of past papers

Useful Corbettmaths Revision Resources

Ultimate Revision Video



Checklist

Tip 2:
Make your remaining lesson time count! Are there any extra sessions available?

Tip 3:
Timings - do some past papers in timed conditions to make sure you are working at the right pace.

Tip 4:
Window pens - write the key facts and formulae on your windows at home.

Tip 5:
Try to add a bit of variety to your maths revision. Revision cards? Quiz a friend etc

Tip 6:
Watch 09:28 to 11:02 in the video to learn about "Cheat Sheets"

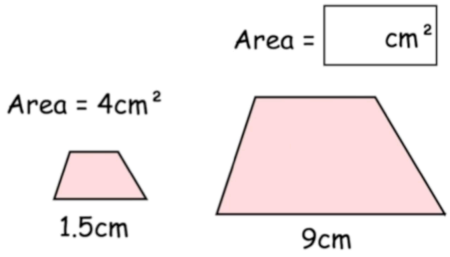
Tip 7:
Believe in yourself!
You can do this!

65 Days to Go Video

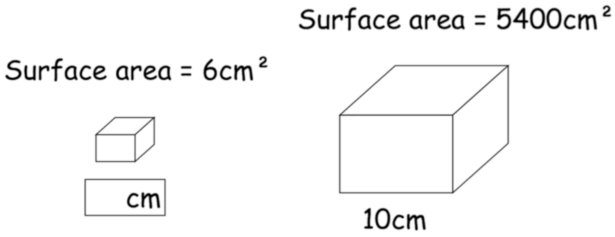
Revision Card Number: 72

Video Numbers: 292, 293

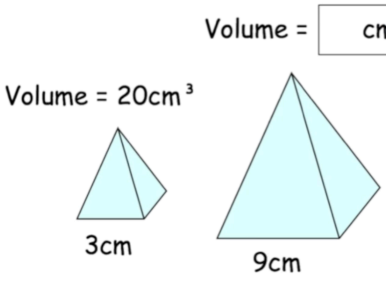
Find the area of the larger trapezium.



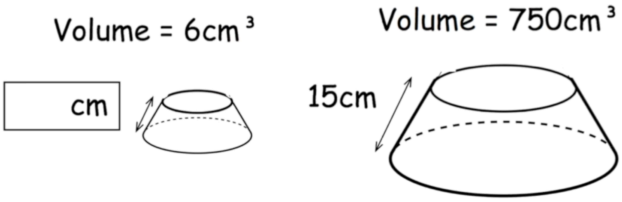
Find the missing length.



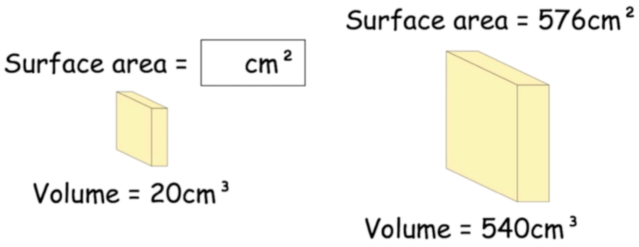
Find the volume of the larger pyramid.



Find the missing length.



Find the surface area of the smaller cuboid.



The length of C : the length of D = 9 : 2

Find surface area of C : surface area of D

Find volume of C : volume of D

Two solid glass paperweights are mathematically similar
The smaller paperweight has a length of 8cm and weighs 250g.
The larger paperweight is 12cm long.
How heavy is the larger paperweight?

Corbettmaths

Equation of a Line

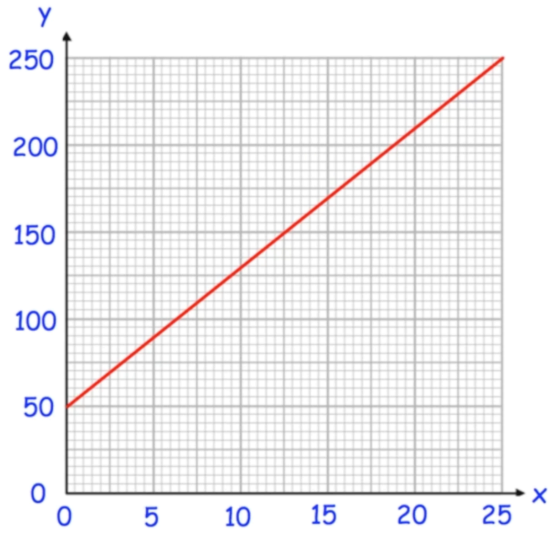
64 Days to Go

64 Days to Go Video

Revision Card Number: 47, 48

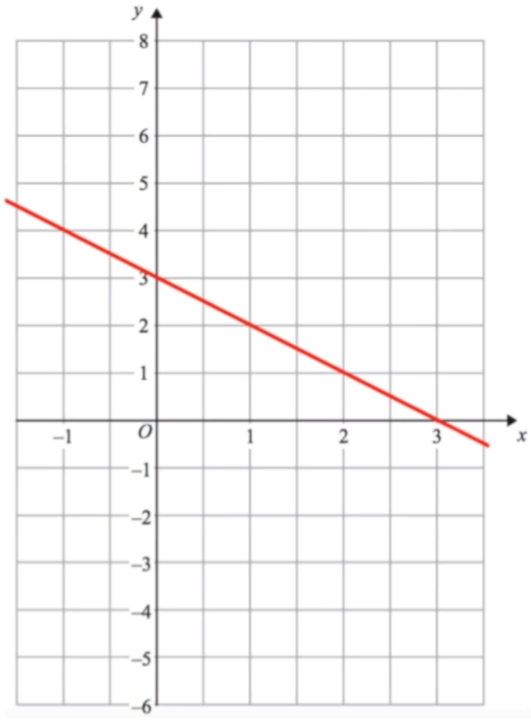
Video Number: 191

Find the gradient of this line.

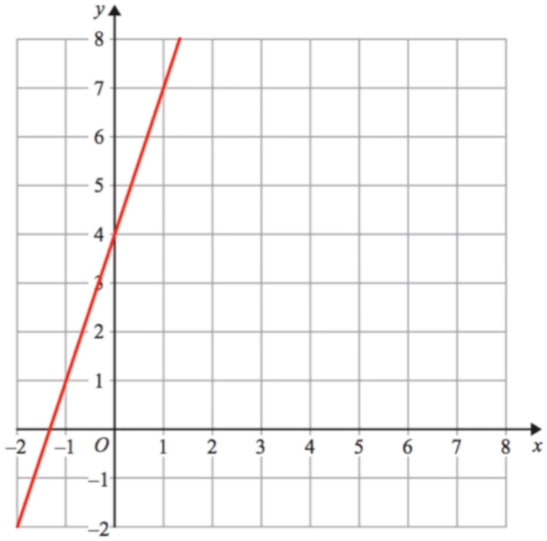


Write down the equation of a line with gradient 8 and a y-intercept of 4.

Find the equation of the line.



Find the equation of the line.



A line has a gradient of 5 and passes through (8, 36).
Find the equation of the line.

Corbettmaths

Equation of a Line

64 Days to Go

A line has a gradient of -2 and passes through (7, 8).
Find the equation of the line.

A line passes through (-4, 3) and (8, 33).
Find the equation of the line.

Where does the line 5x + 4y -12 = 0 cross the x-axis?

Find the gradient of the line with equation $8x + 3y = 30$

Work out the point of intersection of the lines y = 2x + 1 and y = 4x - 2

The lines y = x - 7 and y = 3x - 19 intersect at the point A.
The point B has coordinates (-2, 11)
Find the equation of the line passing through A and B.

Corbettmaths

Parallel Lines

63 Days to Go

63 Days to Go Video

Revision Card Number: 49

Video Number: 196

Circle the line parallel to y = 8x - 2

y = 5x - 2 y = 8x + 1 y = 4x - 1

Write down the gradient of the line parallel to y = 2x + 3

Write down the equation of the line parallel to y = 3x + 1 and passes through (0, 7)

Write down the equation of the line parallel to y = -2x + 7 and passes through (0, 5)

Write down the equation of the line parallel to y = 4x + 9 and passes through (3, 5)

Write down the equation of the line parallel to y = 3x - 1 and passes through (4, 15)

Line 1 passes through (-6, 1) and (-2, -1)
Line 2 passes through (5, 7) and is parallel to Line 1.
Find the equation of Line 2.

Show y = 4x - 1 and 3y - 12x + 1 = 0 are parallel.

Corbettmaths

Perpendicular Lines

62 Days to Go

62 Days to Go Video

Revision Card Number: 50

Video Number: 197

Write down the gradient of a line that is perpendicular to y = 5x + 4

Write down the gradient of a line that is perpendicular to $y = -\frac{1}{2}x + 9$

Write down the gradient of a line that is perpendicular to $y = \frac{2}{3}x + 8$

Write down the gradient of a line that is perpendicular to $3x + 4y + 8 = 0$

Write down the equation of the line perpendicular to y = -2x + 7 and passes through (8, 3).

Point A is (9, 7)
Point B is (13, -13)
Find the equation of the line perpendicular to AB and passes through the midpoint of AB.

Corbettmaths

Equation of a Circle

61 Days to Go

61 Days to Go Video

Revision Card Number: 24

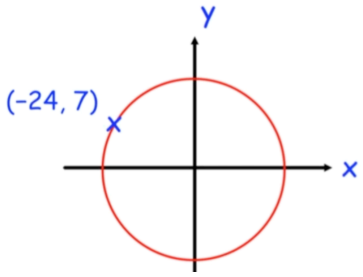
Video Number: 12

The equation of a circle, centre C, is $x^2 + y^2 = 25$

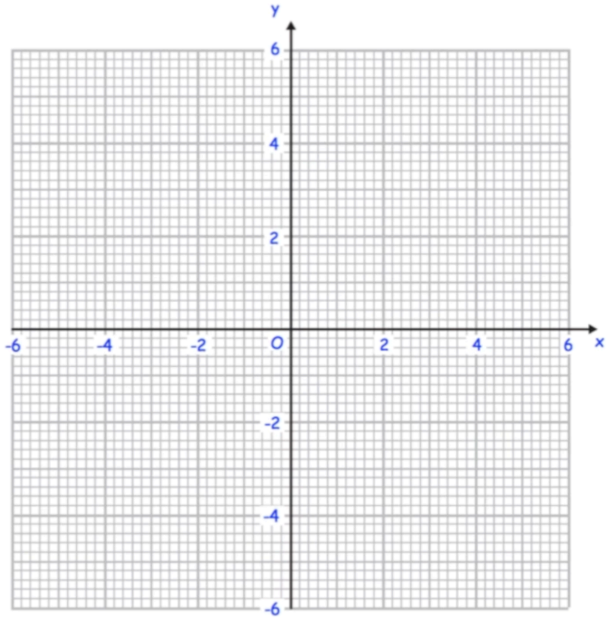
Find the radius of C

Show (-4, 3) lies on C

The circle has centre (0, 0)
Find the equation of the circle.



Draw $x^2 + y^2 = 9$



AB is the diameter of a circle.
A is the point (-6, 8) and B is (6, -8)
Find the equation of the circle.

A circle has equation $x^2 + y^2 = 144$
Find the circumference of the circle.

Find the coordinates of the points of intersection between y = 2x and $x^2 + y^2 = 50$

Corbettmaths

Graphical Inequalities

60 Days to Go

60 Days to Go Video

Revision Card Number: 91

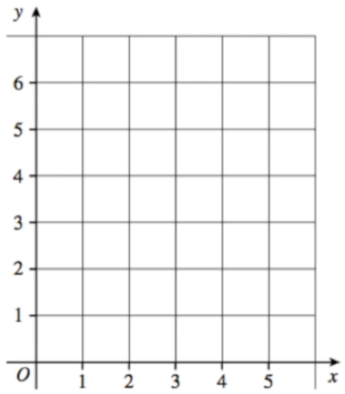
Video Number: 182

On the grid, clearly show the region that satisfies these inequalities

$x \geq 2$

$y \geq 1$

$x + y \leq 4$

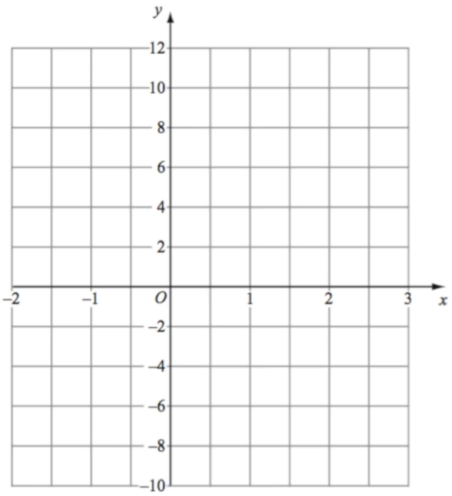


On the grid, clearly show the region that satisfies these inequalities

$y > 2$

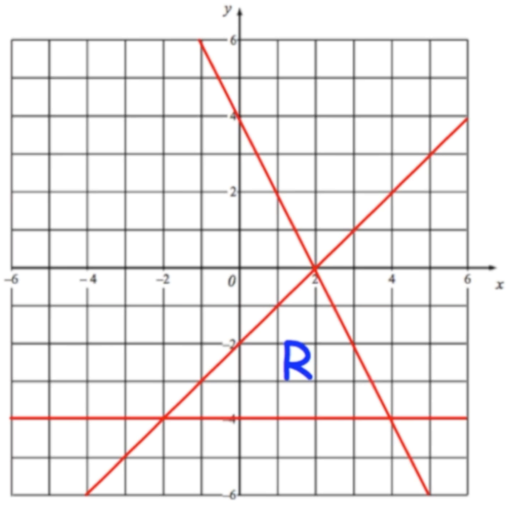
$y \leq 2x + 4$

$x + y < 4$



The region labelled R satisfies 3 inequalities

State the three inequalities



59 Days to Go Video

Revision Card Number: 20

Video Numbers: 75, 76, 77

Draw the locus of all the points that are 2cm from the line

A boat is within 8 miles of lighthouse A.
The same boat is within 6 miles of lighthouse B.
Shade the possible area in which the boat could be.

1cm = 1 mile

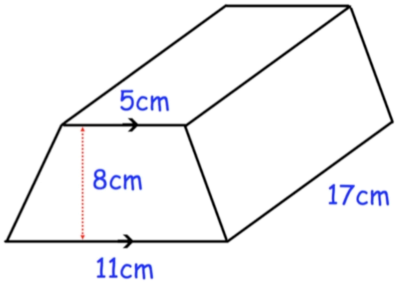
Volume of a Prism/Cylinder

58 Days to Go Video

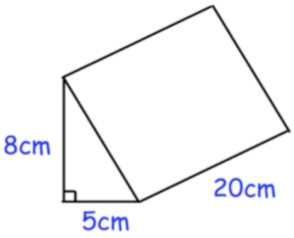
Revision Card Number: 89

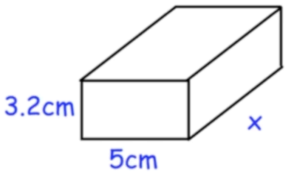
Video Numbers: 356, 357

Work out the volume

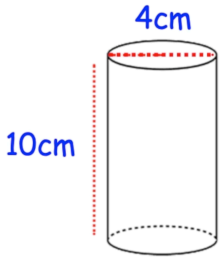


The volumes of the two shapes are equal
Find x.

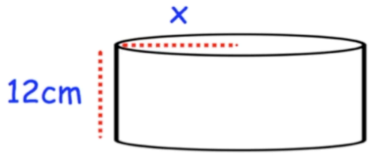




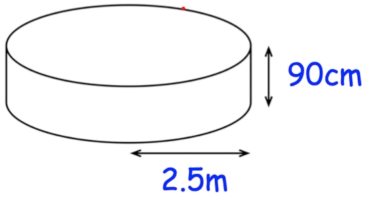
Work out the volume
Give your answer in terms of π



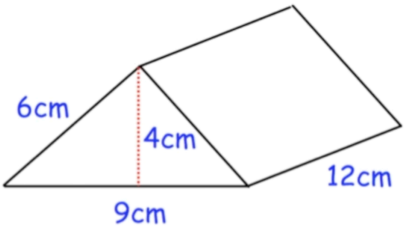
The volume is 6000cm ^{3}
Find x

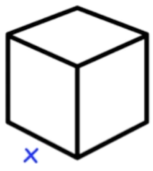


An empty paddling pool is filled at a rate of 3 litres per second.
How long does it take to fill?
Give your answer to the nearest minute.



A metal triangular prism is melted down to make a solid cube.
Find x



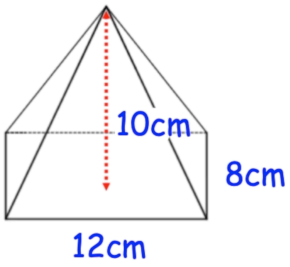


57 Days to Go Video

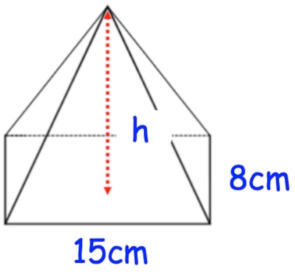
Revision Card Number: 88

Video Number: 359, 360

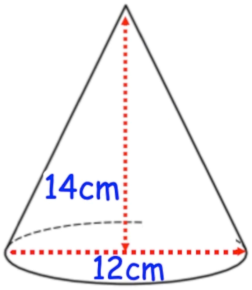
Find the volume



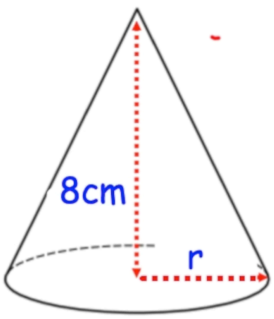
The volume is 500cm ^{3}
Find h



Find the volume



The volume is 200cm ^{3}
Find r



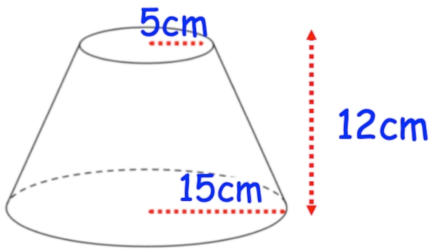
Volume of a Frustum

56 Days to Go Video

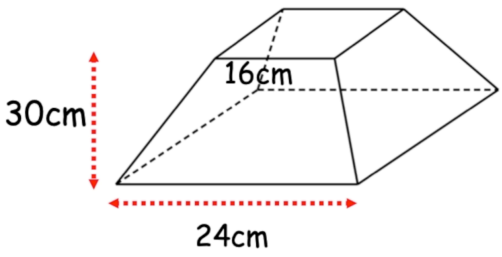
Revision Card Number: 88

Video Number: 360a

Shown is a frustum of a cone that had a perpendicular height of 18cm.
Find the volume of the frustum



Find the volume of the frustum



Corbettmaths

Volume of a Sphere

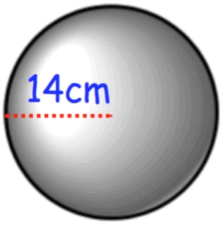
55 Days to Go

55 Days to Go Video

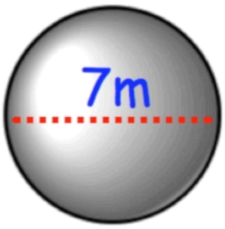
Revision Card Number: 90

Video Number: 361

Find the volume of the sphere

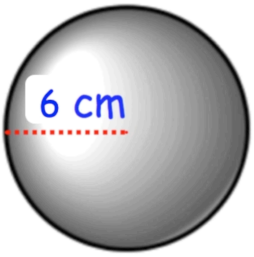


Find the volume of the sphere



A solid glass sphere has a radius of 8cm.
The density of glass is 2.5g/cm^3
Find the mass of the glass sphere.

Find the volume of the sphere
Give your answer in terms of π

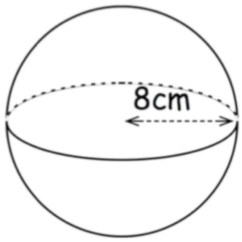


A sphere has a volume of 50cm^3
Find the radius of the sphere.

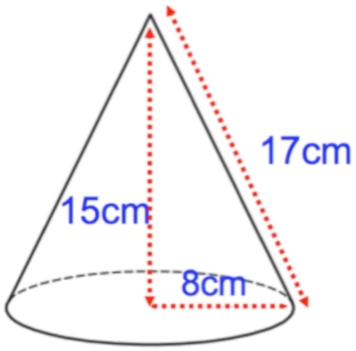
54 Days to Go Video

Video Numbers: 310, 311, 312 313, 314, 315

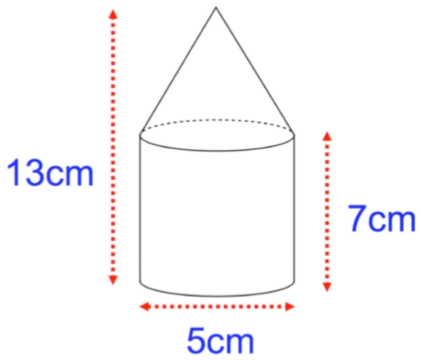
Find the surface area of the sphere



Find the surface area of the cone



Find the surface area of the solid.



The surface area of the sphere is equal to the sum of the surface areas of the cone and cube.
Find y.

53 Days to Go Video

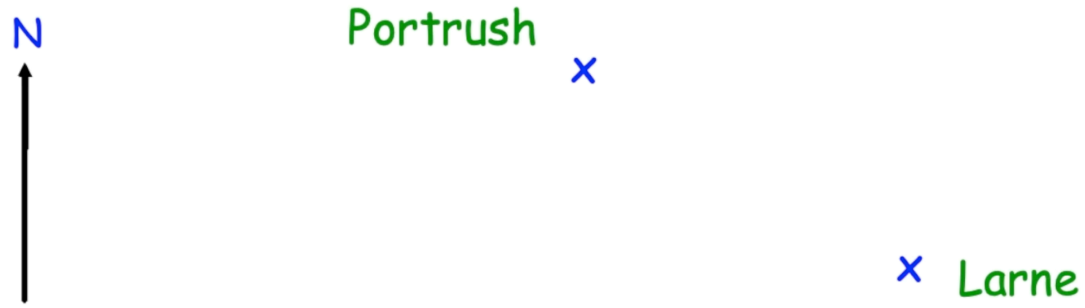
Revision Card Number: 9

Video Numbers: 26, 27, 27a

Write down the three figure bearing of Castletown from Milton.

Write down the three figure bearing of Belfast from Antrim.

Write down the three figure bearing of Portrush from Larne.



The park is on a bearing of 070° from the school.
The park is on a bearing of 320° from the shop.
Show the park on the map.

The bearing of town A from town B is 135°
What is the bearing of town B from town A?

The bearing of C from D is 288°
What is the bearing of D from C?

Corbettmaths

Area of a Triangle

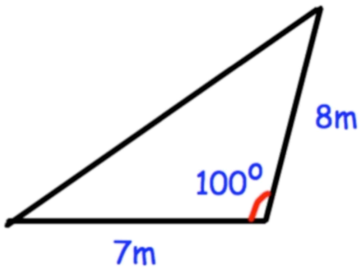
52 Days to Go

52 Days to Go Video

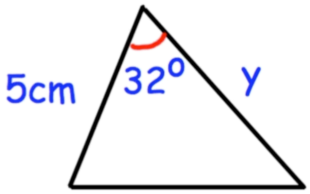
Revision Card Number: 8

Video Number: 337

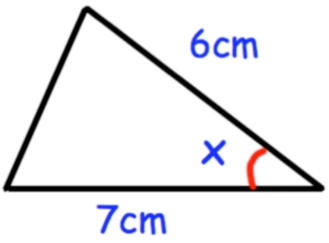
Find the area of the triangle.



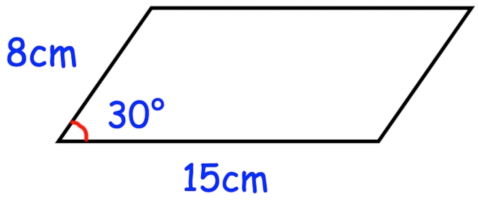
The area of the triangle is 12.45cm²
Find y.



The area of the triangle is 8cm²
Find x.



Find the area of the parallelogram.

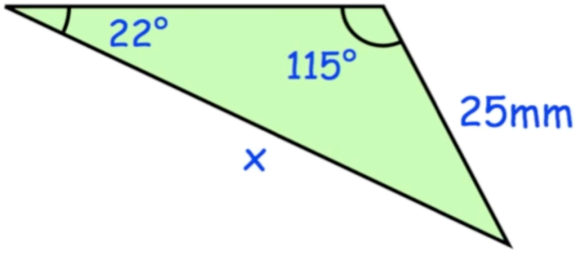


51 Days to Go Video

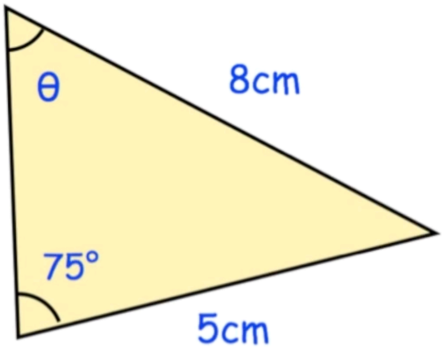
Revision Card Number: 85

Video Numbers: 333, 334

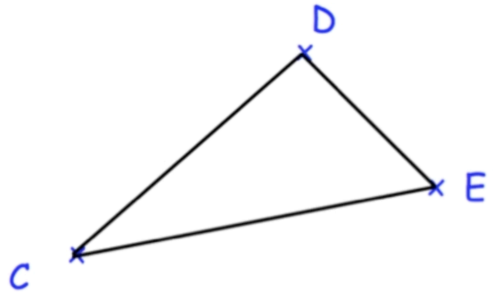
Find x



Find θ



Donhampton is 48km from Castletown on a bearing of 050°
Eastville is on a bearing of 075° from Castletown and on a bearing of 150° from Donhampton.
Calculate the distance of Eastville from Castletown.

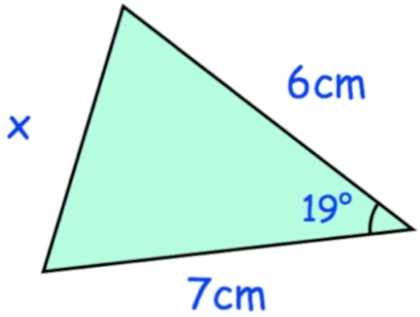


50 Days to Go Video

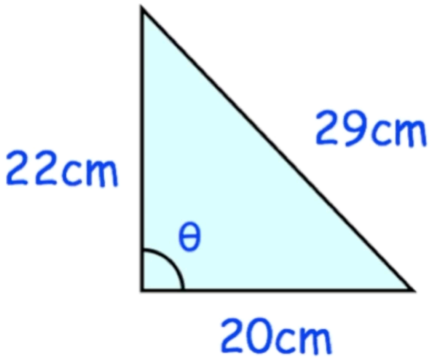
Revision Card Number: 83

Video Numbers: 335, 336

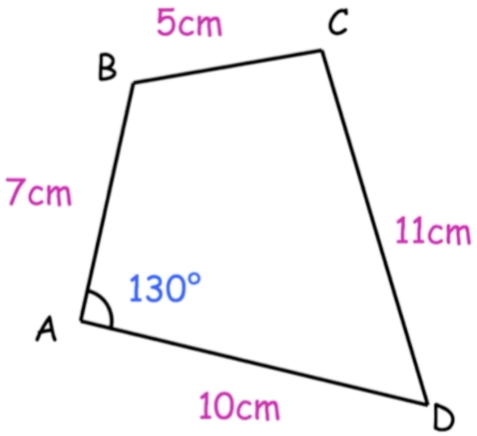
Find x



Find θ



Find the size of angle BCD



49 Days to Go Video

Revision Card Number: 45

Video Number: 377

The length of a line, L cm, is 18cm to the nearest centimetre.
Write down the error interval for L.

Amelia rounds a number, y, to one decimal place.
The result is 6.4
Write down the error interval for y.

Josh rounds a number, n, to two decimal places.
The result is 70.92
Write down the error interval for n.

The length of each side of a regular hexagon is 3.6cm to 1 decimal place.
Write the error interval for the perimeter, P.

A man jogs 200m to the nearest 10m.
It takes him 40 seconds to the nearest 10 seconds.
Work out the error interval for his speed.

The radius of a circle is 4cm to the nearest centimetre.
Find the error interval for the circumference of the circle.
Give your answer in terms of π

Corbettmaths

Product Rule for Counting

48 Days to Go

48 Days to Go Video

Revision Card Number: 19

Video Number: 383

A coach is designing a new football strip.
She has a choice of 3 different pairs of socks, 2 different pairs of shorts and 6 different shirts.

How many different strips are possible?

Jacob picks a 5 digit **odd** number.
The first digit is a prime number.
The third digit is less than 4.
The fourth digit is 8.

How many different 5-digit numbers could he pick?

Katie has 13 different playing cards.
She gives one card to Grace, then one card to Bill and finally one card to Jenny.

In how many different ways can Katie do this?

Jackson makes 4-digit numbers with these cards.

2	3	5	8

How many different numbers greater than 3000 can he make?

Surds

47 Days to Go Video

Revision Card Number: 75

Video Numbers: 305 to 308

$\sqrt{11} \times \sqrt{3}$

$\sqrt{8} \times \sqrt{8}$

$2\sqrt{5} \times 9\sqrt{3}$

$\dfrac{\sqrt{26}}{\sqrt{13}}$

$\dfrac{12\sqrt{14}}{3\sqrt{2}}$

Simplify $\sqrt{72}$

Simplify $\sqrt{300}$

Work out $\sqrt{75} + 9\sqrt{12}$

Work out $\sqrt{98} - \sqrt{32}$

Expand and simplify $(5 - \sqrt{2})^2$

Expand and simplify $(\sqrt{7} + 1)(\sqrt{7} - 1)$

46 Days to Go Video

Revision Card Number: 76

Video Number: 307

Rationalise the denominator of

$$\frac{7}{\sqrt{3}}$$

Rationalise the denominator of

$$\frac{\sqrt{5}}{\sqrt{2}}$$

Rationalise the denominator of

$$\frac{5}{4\sqrt{3}}$$

Rationalise the denominator of

$$\frac{2\sqrt{3}}{7\sqrt{5}}$$

Rationalise the denominator of

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

Rationalise the denominator of

$$\frac{\sqrt{3}+1}{\sqrt{5}+1}$$

Limits of Accuracy

45 Days to Go Video

Revision Card Number: 45

Video Numbers: 183, 184

The lengths of time taken by 4 people to complete a puzzle are listed below.
Each time is given to 1 decimal place.

28.4 seconds 7.3 seconds 37.5 seconds 19.3 seconds

Work out the greatest possible range.

Natalie runs 100 metres, to the nearest 10 metres.
It takes her 12 seconds to the nearest second.

Work out the upper bound for her speed.

$$w = \frac{\sqrt{c}}{x - 1}$$

c = 9 rounded to 1 significant figure
x = 5.24 rounded to 2 decimal places.

Work out the lower bound for w.

Corbettmaths

Practice Paper 1

44/43 Days to Go

44 Days to Go Paper 1 Hints

43 Days to Go Paper 1 Answers

GCSE Higher Practice Paper 1

Scan here for the question paper

Question 1: Product of Primes - see 89 Days to Go
Question 2: Expanding Brackets - see 69 Days to Go
Question 3: Pythagoras - see 98 Days to Go
Question 4: Parallel Lines - see 63 Days to Go
Question 5: Combined Mean - see 82 Days to Go
Question 6: Surds - see 47 Days to Go
Question 7: Expanding Brackets - see 69 Days to Go
Question 8: Indices - see 84 Days to Go
Question 9: Conditional Probability - see 73 Days to Go
Question 10: Perpendicular Lines - see 62 Days to Go
Question 11: Standard Form - see 83 Days to Go
Question 12: Venn Diagrams - see 71 Days to Go
Question 13: Error Intervals - see 49 Days to Go
Question 14: Product Rule for Counting - see 48 Days to Go
Question 15: Equation of a Circle - see 61 Days to Go
Question 16: Tree Diagrams - see 74 Days to Go
Question 17: Rotation - see 95 Days to Go
Question 18: Volume of a Frustum - see 56 Days to Go
Question 19: Estimated Mean - see 72 Days to Go
Question 20: Similar Shapes - see 65 Days to Go
Question 21: Cumulative Frequency - see 78 Days to Go
Question 22: Trigonometry - see 91 Days to Go
Question 23: Factorisation - see 67 Days to Go
Question 24: Changing the Subject - see 70 Days to Go
Question 25: Area of a Sector - see 97 Days to Go
Question 26: Reverse Percentages - see 85 Days to Go
Question 27: Limits of Accuracy - see 45 Days to Go
Question 28: Drawing Histograms - see 76 Days to Go
Question 29: Recurring Decimals - see 87 Days to Go
Question 30: Cosine Rule - see 50 Days to Go
Question 31: Circle Theorems - see 93 Days to Go
Question 32: Simultaneous Equations - see 68 Days to Go
Question 33: Compound Interest - see 86 Days to Go

Corbettmaths

Direct Proportion

42 Days to Go

42 Days to Go Video

Revision Card Number: 62

Video Number: 254

C is directly proportional to the square of D.
When C = 200, D = 2

Find C when D = 5

A is directly proportional to the cube of B.
When B = 2, A = 32

Express A in terms of B

Find A when B = 4

Find B when A = 4000

y is directly proportional to the square root of x

x	25	
y	9	36

Complete the table.

The cost of a circular table is directly proportional to the square of its radius.
A table with radius 40cm, costs £280
What is the cost of a table with a radius of 60cm?

Corbettmaths

Inverse Proportion

41 Days to Go

41 Days to Go Video

Revision Card Number: 63

Video Number: 255

T is inversely proportional to the cube of L.
When L = 0.2, T = 5

Write a formula connecting T and L.

Work out the value of T when L = 0.5

Work out the value of L when T = 2

a is directly proportional to the cube of c.
w is inversely proportional to the square root of a.
When c = 2, a = 48
When a = 9, w = 2400
Find the value of w when c = 6.

40 Days to Go Video

Revision Card Number: 68

Video Number: 269 to 271

Simplify

15:20 24:80 9000:1500

A tub contains lemon and apple sweets.
The ratio of lemon to apple sweets is 4:1

What fraction of the sweets are apple?

What percentage of the sweets are lemon?

Omar says there are 35 sweets in the tub. Could Omar be correct?

The three angles in a triangle are in the ratio 5:7:8. Find the size of each angle.

The ratio of yellow to green counters in a box is 5:6
There are 90 yellow counters in the box.
How many counters are there in total in the box?

A box contains red, blue and orange beads.
Ratio of red beads to blue beads is 5:2
Ratio of orange beads to red beads is 7:3
Find the ratio of blue to orange beads.

Given $x : y = 2:3$
Write an equation linking x and y.

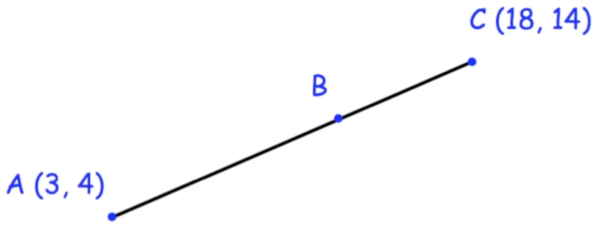
$4x = 5y$
Find the ratio $x : y$

$6x + 4y = 15y - x$

Find the ratio $x : y$

AB:BC = 3:2

Write down the coordinates of B



Charlotte and Melissa booked theatre tickets costing £180.

They have a voucher that entitles them to 20% off the total price.

Charlotte and Melissa share the total cost of the tickets in the ratio 5:7

Work out how much more Melissa pays than Charlotte.

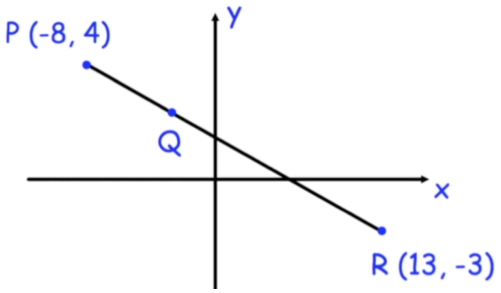
Ratio of red beads to yellow beads is 2:3

Ratio of yellow beads to blue beads is 5:4

What fraction of the beads are red?

PQ:QR = 2:5

Write down the coordinates of Q



Bag A has 5x coins. and Bag B has 3x coins. 8 coins are taken from Bag B and put into Bag A. The ratio of coins in Bag A to Bag B is now 11:5

Work out the total number of coins.

Corbettmaths

Percentages, Simple Interest

39 Days to Go

39 Days to Go Video

Video Numbers: 234, 235, 238 236a

Find 25% of 60cm	Find 60% of 800	Find 5% of 90
Find 19% of 240	Find 73.6% of 820	Find 256% of 6500
Increase 700 by 9%	Increase 4500 by 23%	Decrease 23400 by 4%
Decrease 8000 by 32%	£400 is invested for 3 years at 10% per year simple interest. Work out how much money is in the account after 3 years.	
Carolyn invested £900 for 3 years at 2.4% per annum simple interest. Work out the total interest earned.	Evie is saving for a guitar costing £149 She puts £600 into an account that pays 6% per annum simple interest. After how many whole years will Evie have earned enough interest to buy the guitar?	

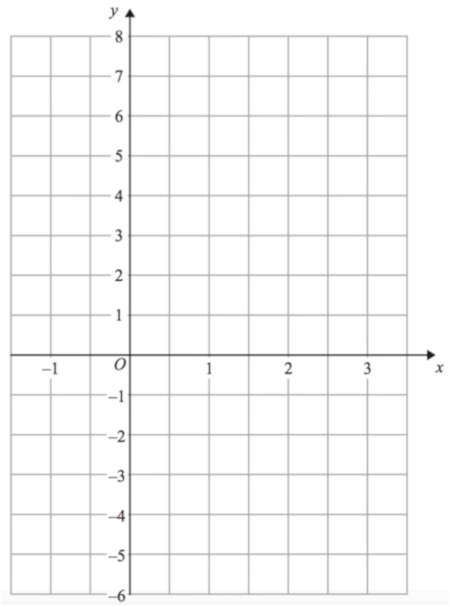
38 Days to Go Video

Video Number: 297

Draw graphs to solve the simultaneous equations

$2x + y = 4$

$x + 4y = 16$

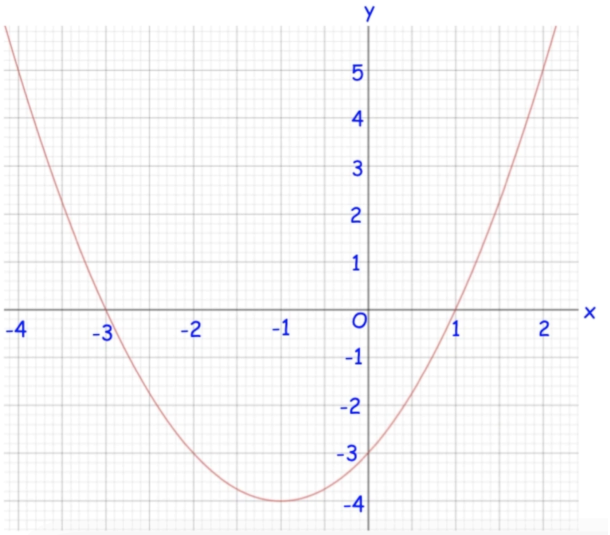


Shown is $y = x^2 + 2x - 3$

Solve the simultaneous equations

$y = x^2 + 2x - 3$

$y = 2x + 1$

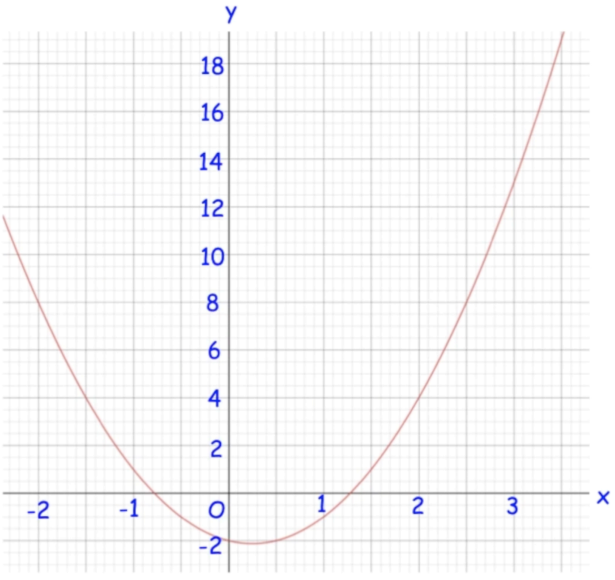


Shown is $y = 2x^2 - x - 2$

Solve the simultaneous equations

$y = 2x^2 - x - 2$

$y = -4x$



Corbettmaths

The nth Term

37 Days to Go

37 Days to Go Video

Revision Card Number: 53

Video Number: 288

Find the nth term of: 7, 11, 15, 19 …

Find the nth term of: 1, 8, 15, 22 …

Find the nth term of: 40, 31, 22, 13 …

Find the nth term of: -4, -1, 2, 5 …

Find the 50th term of: 8, 14, 20, 26 …

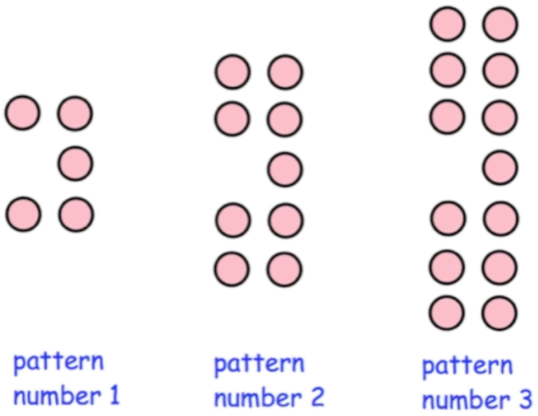
Find the 100th term of: 7.5, 9, 10.5, 12 …

The nth term of a sequence is 19n + 5
Write down the first four terms

The nth term of a sequence is 4n + 7
Which term of the sequence is equal to 95?

The nth term of a sequence is 12n - 40
Which term of the sequence is equal to 68?

14, 22, 30, 38 …
Is 426 a term in the sequence?

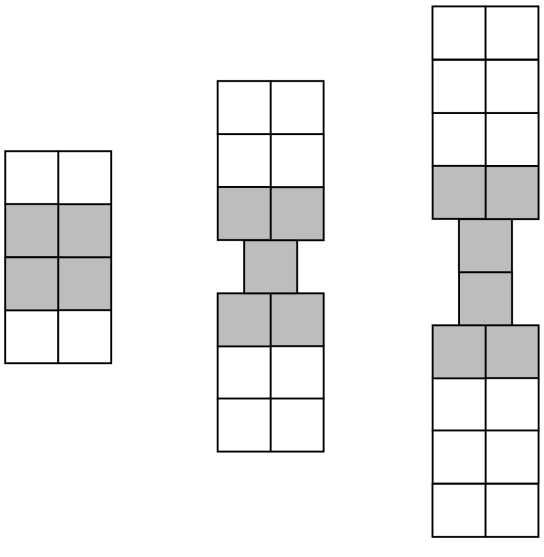


pattern number 1 pattern number 2 pattern number 3

Find an expression, in terms of n, for the number of discs in pattern number n.

Can Jay make a pattern with exactly 251 discs?

Which statements below are true?



Pattern 1 Pattern 2 Pattern 3

A: Pattern 20 has 23 shaded squares

B: The number of shaded squares is always even

C: Pattern 12 has 62 squares in total

D: Every pattern has more white than shaded squares.

E: Pattern 15 has 60 white squares.

F: The number of shaded squares in Pattern 26 is a prime number

Corbettmaths

Quadratic nth Term

36 Days to Go

36 Days to Go Video

Revision Card Number: 54

Video Number: 388

Find the nth term of:

9, 13, 19, 27 …

Find the nth term of:

-1, 2, 9, 20 …

Circle the quadratic sequence

3, 13, 23, 33… 1, 6, 16, 31, 51 …

1, 4, 16, 64 … 1, 1, 2, 3, 5 …

The nth term of a sequence is $n^2 + 8n - 1$
List the first 3 terms.

A sequence has an nth term of $n^2 + n - 4$

Work out which term in the sequence has a value of 128

Corbettmaths

Quadratic Formula

35 Days to Go

35 Days to Go Video

Revision Card Number: 66

Video Number: 267

Solve $x^2 - 10x + 3 = 0$

Give your answers to 1 decimal place.

A field has a width of x metres.
The length of the field is (2x + 1) metres.

The area of the field is 600m^2

Find the width and length of the field.
Give your answer to 2 decimal places.

Quadratic Inequalities

34 Days to Go Video

Revision Card Number: 67

Video Number: 378

Solve $x^2 + x - 12 < 0$

Solve $x^2 + 2x - 15 > 0$

Solve $x^2 + x - 42 < 0$

Solve $x^2 - 7x + 6 \geq 0$

33 Days to Go Video

Revision Card Number: 73

Video Number: 298

Solve the simultaneous equations

$y = x + 3$

$x^2 + y^2 = 149$

Solve the simultaneous equations

$x - 4y = 2$

$x^2 - 8y^2 = 68$

Find the coordinates of the points of intersection.

$y = 3x - 3$

$y = 2x^2 - 8x + 2$

Corbettmaths

Equipment and Preparation

32 Days to Go

32 Days to Go Video

Tip 1:
Remember to use black ink

Equipment

- Black ink pens
- HB pencils
- Pencil sharpener
- A good rubber
- A 30cm ruler
- Protractor
- A compass
- A scientific calculator

Tip 2:
Use your pencil for all graphs, charts, constructions etc.

Tip 3:
I like to bring both a 180° and also a 360° protractor into exams, especially for bearings.

Tip 4:
Make sure your compass is tightened.

Tip 5:
I tend to keep a pencil in my compass to save time.

Tip 6:
Bring your calculator to all your lessons to make sure you are familiar with all the buttons.

Tip 7:
You can ask the invigilators for tracing paper. It can be useful for questions on rotations.

31 Days to Go Video

Revision Card Number: 70

Video Number: 390a, 390b

Estimate the speed at 2 seconds.

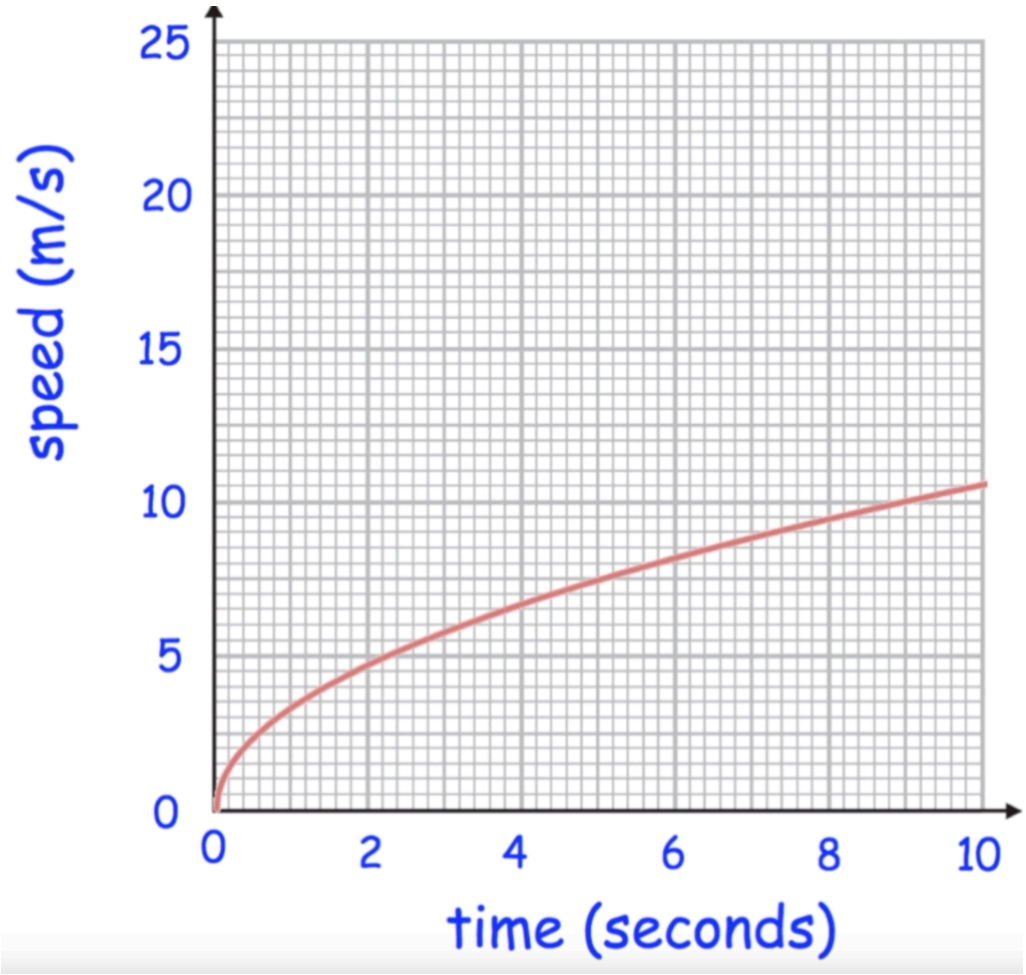
Find the average speed of the ball between 1 second and 3 seconds

30 Days to Go Video

Revision Card Number: 65

Video Number: 389

Shown below is a speed-time graph.



Find an estimate for the distance travelled over the first 9 seconds.
Use 3 strips of equal width.

Is your answer an overestimate or underestimate?

Corbettmaths

Composite Functions

29 Days to Go

29 Days to Go Video

Revision Card Number: 32

Video Number: 370

$f(x) = 2x + 1$ and $g(x) = x^2 + 5$ find:

$f(3)$ $f(-4)$

$g(0)$ $g(8)$

$f(x) = 2x - 1$ and $g(x) = x + 8$ find:

$fg(x)$ $gf(x)$

$g(x) = 2x - 3$ and $h(x) = 5 - 2x$

find:

$hg(x)$ $gh(x)$

$f(x) = x + 6$ and $g(x) = 4x - 3$ find:

$fg(2)$ $gf(1)$ $gg(-2)$

$f(x) = 2x + 7$ and $g(x) = x - 3$

Given $gf(a) = 2$
Find the value of a

$f(x) = x^2 + 1$ and $g(x) = x + 4$

Given $fg(a) = 122$
Find the values of a

$f(x) = kx + 6$ and $g(x) = 2x - 3$

Given $gf(1) = 17$
Find the value of k

$f(x) = x^2 + 4$ and $g(x) = x - 6$

Solve $fg(x) = gf(x)$

28 Days to Go Video

Revision Card Number: 33

Video Number: 369

Given that $f(x) = \frac{x}{3}$

Find $f^{-1}(x)$

Given that $g(x) = 8x + 5$

Find $g^{-1}(x)$

Given that $f(x) = \frac{2x - 1}{7}$

Find $f^{-1}(x)$

Given that $f(x) = \frac{3x}{4} - 5$

Find $f^{-1}(2)$

Corbettmaths

Algebraic Proof

27 Days to Go

27 Days to Go Video

Revision Card Number: 93

Video Number: 365

Prove that $(n+10)^2-(n+5)^2$ is always a multiple of 5.

Prove that $(5n+2)^2-(5n-1)^2$ is always a multiple of 3.

Prove the sum of four consecutive odd numbers is always a multiple of 8

Prove the sum of three consecutive even numbers is always divisible by 3.

Corbettmaths

Equation of a Tangent

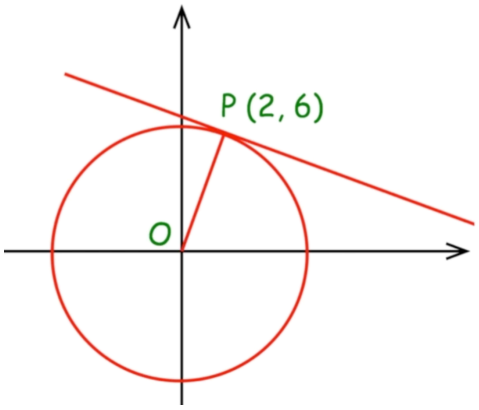
26 Days to Go

26 Days to Go Video

Revision Card Number: 51

Video Number: 372

Shown below is $x^2 + y^2 = 40$ with a tangent at P(2, 6)

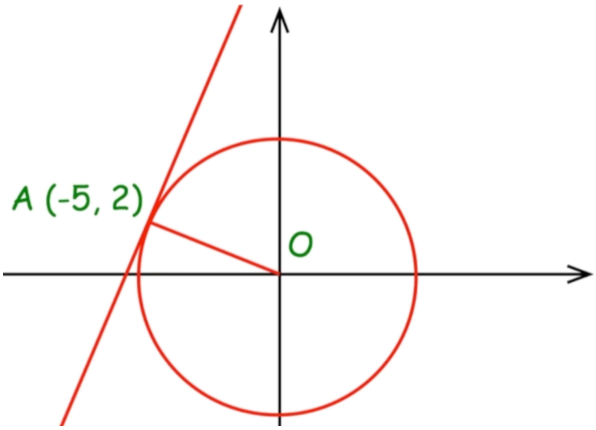


Find the gradient of OP

Find the gradient of the tangent

Find the equation of the tangent

Shown below is $x^2 + y^2 = 29$ with a tangent at P(-5, 2)



Find the equation of the tangent

Corbettmaths

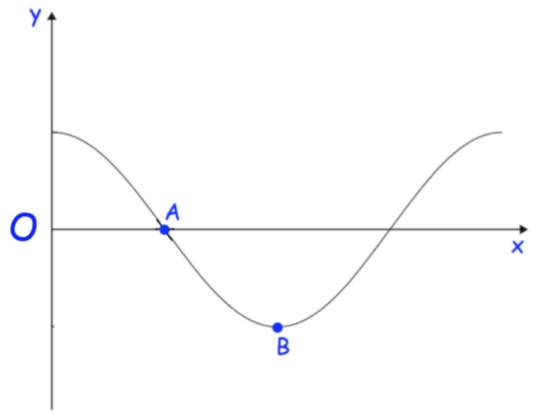
Trig Graphs

25 Days to Go

25 Days to Go Video

Revision Card Number: 39

Video Numbers: 338 to 340



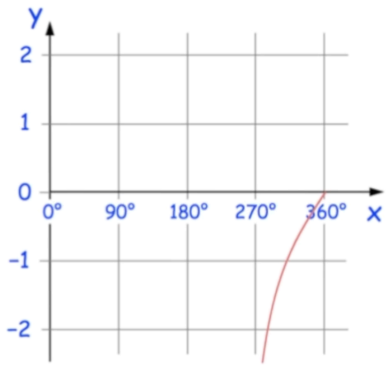
Shown below is $y = cosx$

Write down the coordinates of point A

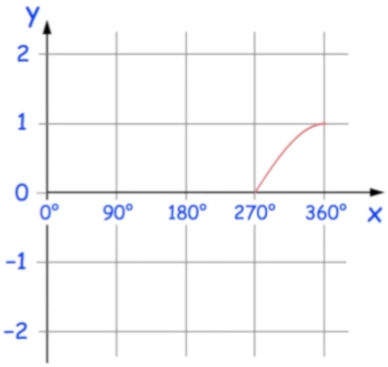
Write down the coordinates of point B

Shown are three graphs for $270 \leq x \leq 360$

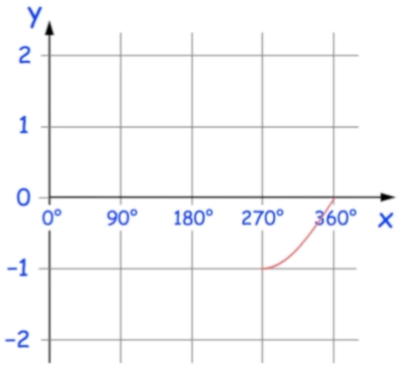
Graph 1



Graph 2



Graph 3



Which graph is y = sin x?

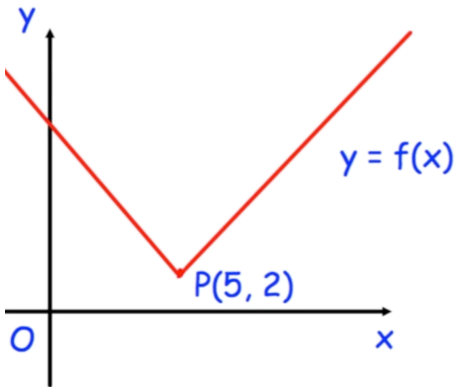
Which graph is y = cos x?

Which graph is y = tan x?

24 Days to Go Video

Revision Card Numbers: 37, 38

Video Number: 323, 324



What are the coordinates of the new position of P when y = f(x) is transformed to

y = -f(x)

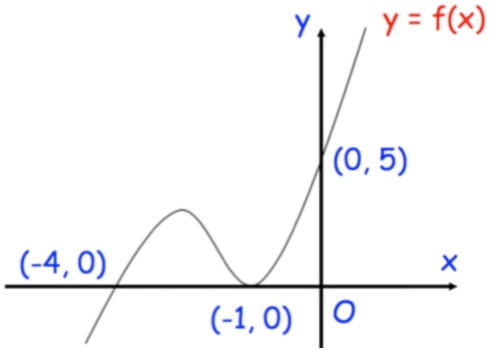
y = f(-x)

y = f(x) + 3

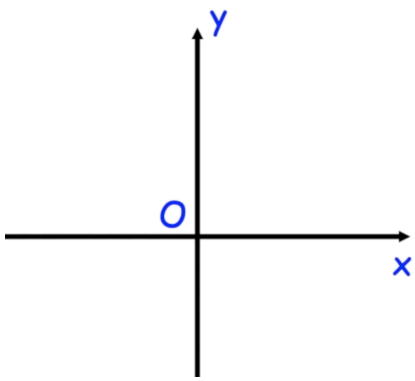
y = f(x + 1)

y = f(x) - 2

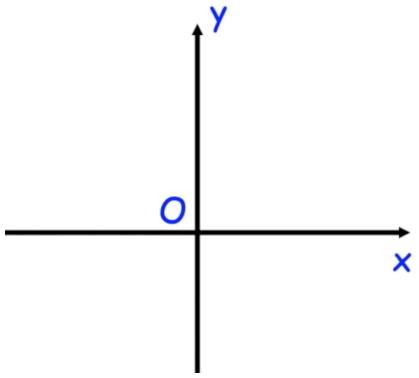
y = f(x - 3)



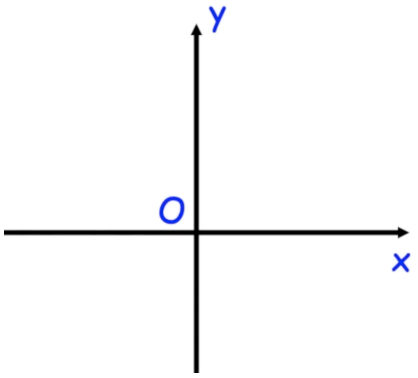
Sketch y = f(-x)



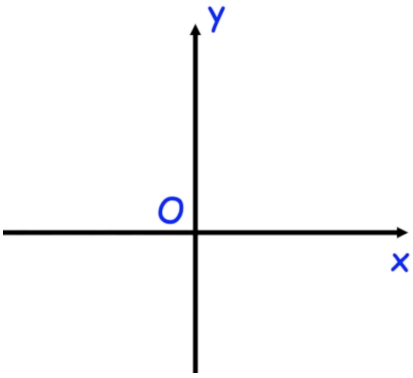
Sketch y = f(x) - 3



Sketch y = f(x - 1)



Sketch y = -f(x)



23 Days to Go Video

Revision Card Number: 13

Video Number: 373

Use the iteration formula $x_{n+1} = 5 - \frac{2}{x_n}$

starting with $x_0 = 4$ to find x_1 , x_2 and x_3

Show that $x^2 + 3x - 1 = 0$ can be rearranged to give $x = \frac{1}{3} - \frac{x^2}{3}$

Starting with $x_0 = 0$ use the iteration formula $x_{n+1} = \frac{1}{3} - \frac{x_n^2}{3}$ to find x_1 , x_2 and x_3

Explain the relationship between x_1 , x_2 and x_3 and the equation $x^2 + 3x - 1 = 0$

Show that $5x - x^2 = 2$ has a solution between x = 0 and x = 1

Show $5x - x^2 = 2$ can be rearranged to give $x = \sqrt{5x - 2}$

Starting with $x_0 = 1$ use the iteration formula $x_{n+1} = \sqrt{5x_n - 2}$ three times to find an approximate solution to $5x - x^2 = 2$

Corbettmaths

Practice Paper 2

22/21 Days to Go

22 Days to Go Paper 2 Hints

21 Days to Go Paper 2 Answers

GCSE Higher Practice Paper 2

Scan here for the question paper

Question 1: Angles in Parallel Lines and Ratio - see 100 and 40 Days to Go
Question 2: Gradient - see 64 Days to Go
Question 3: Angles in Polygons - see 99 Days to Go
Question 4: Scatter Graphs - see 79 Days to Go
Question 5: Ratio - see 40 Days to Go
Question 6: Quadratic Inequalities - see 34 Days to Go
Question 7: Composite Functions - see 29 Days to Go
Question 8: Graphical Inequalities - see 60 Days to Go
Question 9: Percentage Change - see 88 Days to Go
Question 10: Transforming Graphs - see 24 Days to Go
Question 11: Circle Theorems - see 93 Days to Go
Question 12: Quadratic Formula - see 35 Days to Go
Question 13: Surface Area - see 54 Days to Go
Question 14: Constructions - see 59 Days to Go
Question 15: Pie Charts - see 80 Days to Go
Question 16: Trig Graphs - see 25 Days to Go
Question 17: Non-linear Simultaneous Equations - see 33 Days to Go
Question 18: Volume of a Pyramid - see 81 Days to Go
Question 19: Iteration - see 23 Days to Go
Question 20: Quadratic nth Term - see 36 Days to Go
Question 21: Reflections - see 96 Days to Go
Question 22: Arithmetic with Fractions - see 90 Days to Go
Question 23: Negative Scale Factor - see 94 Days to Go
Question 24: Rationalising the Denominator - see 46 Days to Go
Question 25: Rates of Change - see 31 Days to Go
Question 26: Algebraic Proof - see 27 Days to Go
Question 27: Arc Length - see 92 Days to Go
Question 28: Box Plots - see 77 Days to Go
Question 29: Bearings - see 53 Days to Go
Question 30: Cosine Rule - see 52 Days to Go
Question 31: Sine Rule - see 51 Days to Go
Question 32: Equation of a Tangent - see 26 Days to Go

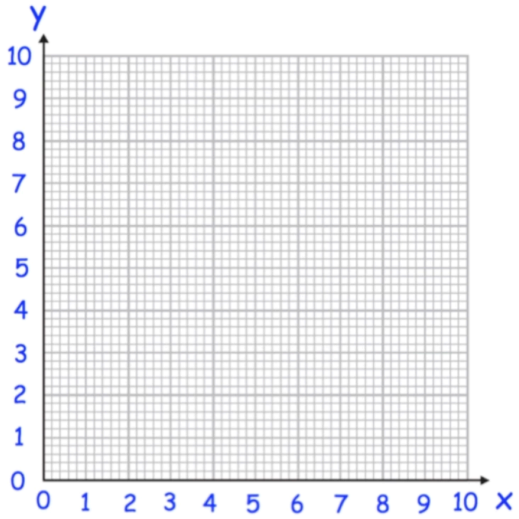
20 Days to Go Video

Revision Card Numbers: 34, 35, 36

Video Numbers: 345, 346

Draw $y = \frac{4}{x}$

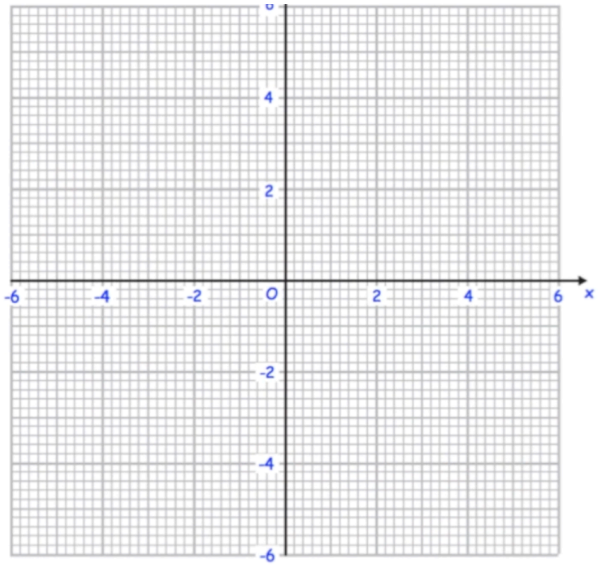
x	0.5	1	2	4	8	10
y						



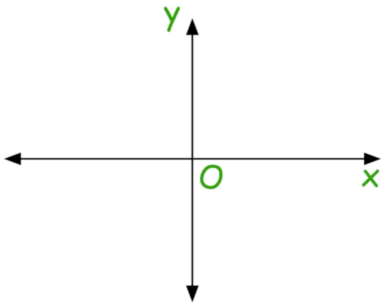
Draw $y = \frac{2}{x}$

x	-5	-2	-1	-0.5	0.5
y					

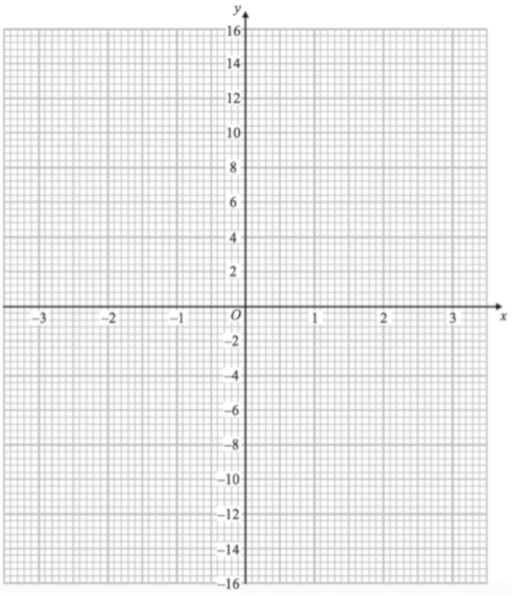
x	1	2	5
y			



Sketch $y = \frac{1}{x}$



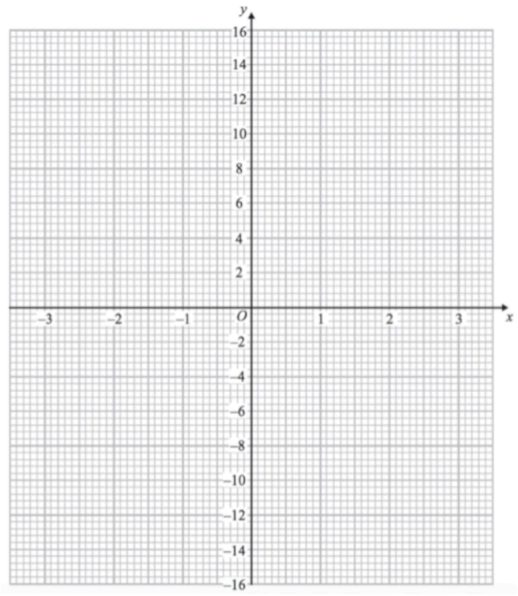
Draw $y = x^3$



Circle the coordinates of the point that lies on the graph $y = \frac{6}{x}$

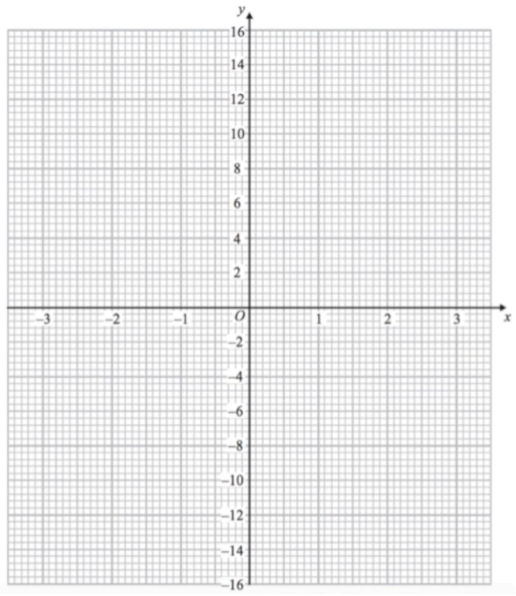
(6, 0) (-1, 6) (6, 1) (0, 6)

Draw $y = -x^3$



Draw $y = 2^x$

x	-2	-1	0	1	2	3
y						



$y = 8^x$ passes through (0, 1)

True ☐ False ☐

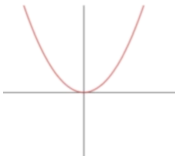
$y = 3^x$ passes through (3, 9)

True ☐ False ☐

$y = 5^x$ passes through (-1, 0.2)

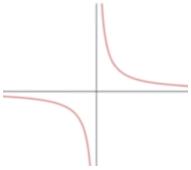
True ☐ False ☐

Graph A

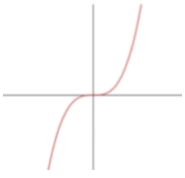


Graph B

Graph C



Graph D



$y = x^2$ is graph **A**

$y = x^3$ is graph .....

$y = 2^x$ is graph .....

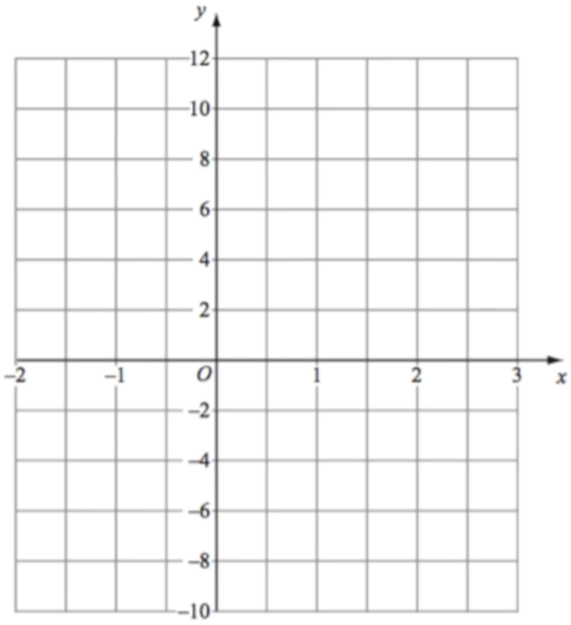
$y = \frac{1}{x}$ is graph .....

19 Days to Go Video

Video Numbers: 264, 265, 265a, 265b

Draw $y = x^2 + x - 4$

x	-2	-1	0	1	2	3
y						

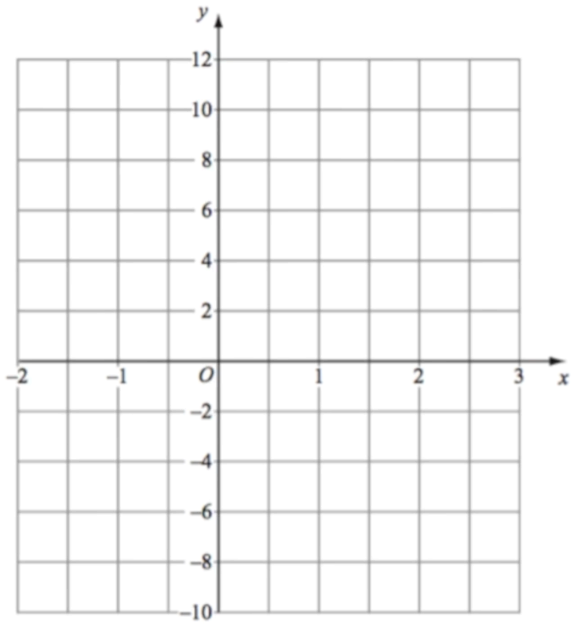


Write down the coordinates of the turning point.

Use your graph to estimate the values of x when y = -3

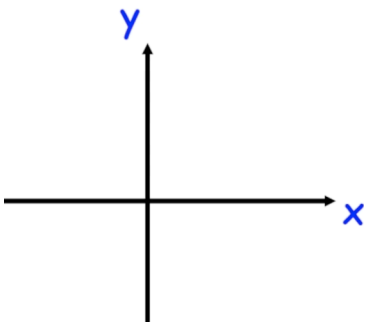
Draw $y = x^2 - 3x - 2$

x	-2	-1	0	1	2	3
y						

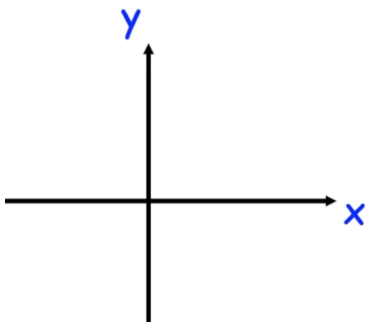


Write down the coordinates of the turning point.

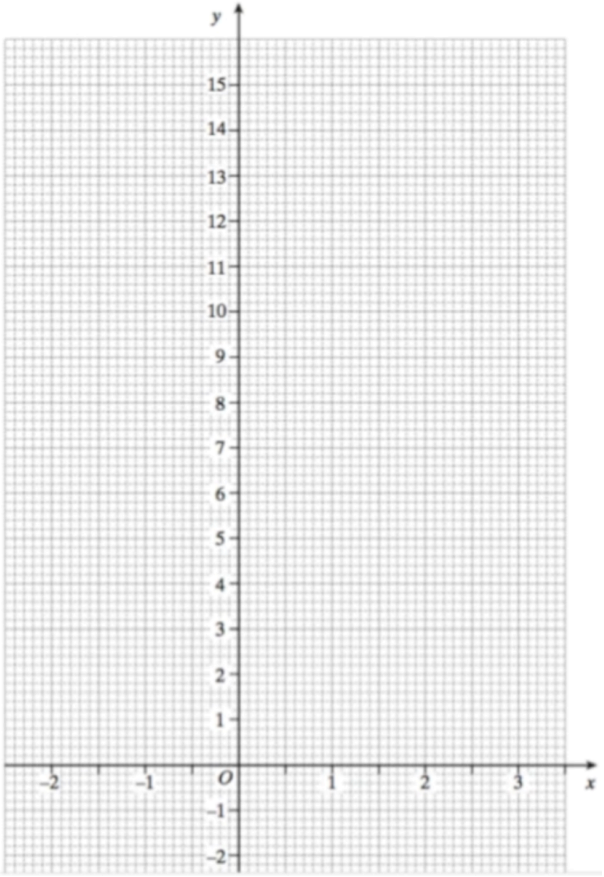
Sketch $y = x^2 - 7x + 10$



Sketch $y = 2x^2 + 9x - 5$



Draw $y = x^2 + x - 1$

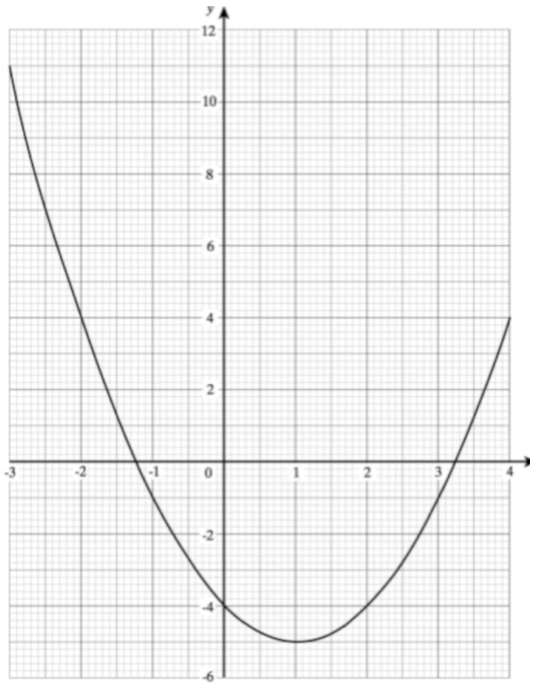


Use your graph to estimate the roots of $x^2 + x - 1 = 0$

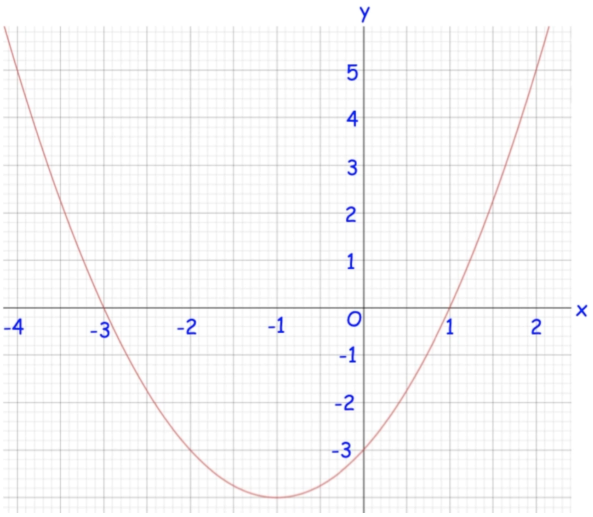
Write down the coordinates of where $y = x^2 + x - 1$ and $y = 3x + 2$ intersect.

The graph of $y = x^2 - 2x - 4$ is shown.

Use the graph to solve $x^2 - 2x - 4 = 2$



Use the graph $y = x^2 + 2x - 3$ to solve $x^2 + 2x - 3 = x + 2$



Corbettmaths

Completing the Square

18 Days to Go

18 Days to Go Video

Revision Card Number: 92

Video Numbers: 10, 267a

Write $x^2 - 10x + 9$ in the form $(x + a)^2 + b$

Solve $x^2 - 6x - 2 = 0$ using completing the square

Find the coordinates of the minimum point of $y = x^2 + 2x + 7$

Find the equation of the line of symmetry of $y = x^2 - 14x + 7$

Write $3x^2 + 6x + 10$ in the form $a(x + b)^2 + c$

17 Days to Go Video

Revision Card Numbers: 29, 30, 31

Video Numbers: 21, 22, 23, 24

Simplify $\dfrac{x^2-2x-8}{x^2+6x-40}$

Simplify $\dfrac{x^2+6x+9}{x^2-2x-15}$

Simplify $\dfrac{x^2-15x+44}{x^2-16}$

Simplify $\dfrac{x^2-2x-8}{3x^2+7x+2}$

Simplify $\dfrac{4}{x-2}\times\dfrac{x^2-2x}{8}$

Simplify $\dfrac{x^2+2x-8}{x^2+5x+6}\times\dfrac{x+2}{x+4}$

Algebraic Fractions

Simplify $\frac{x^2+x}{9} \times \frac{3}{x^2+8x+7}$

Simplify $\frac{10x}{3y} \div \frac{15x}{y}$

Simplify $\frac{v+3}{2} \div \frac{3v+9}{5}$

Simplify $\frac{14}{x^2-5x+6} \div \frac{7}{x^2+3x-10}$

Simplify $\frac{3x}{5} + \frac{x}{2}$

Simplify $\frac{5x-4}{2} + \frac{x+1}{3}$

Simplify $\frac{5-x}{6} - \frac{8-3x}{10}$

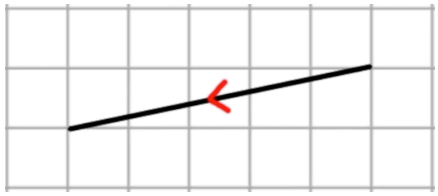
Simplify $\frac{2}{x+5} + \frac{3}{x+1}$

16 Days to Go Video

Revision Card Number: 86

Video Number: 353, 353a

Write as a column vector



$\begin{pmatrix} & \\ & \end{pmatrix}$

$\mathbf{a} = \begin{pmatrix} 8 \\ 6 \end{pmatrix}$ $\mathbf{b} = \begin{pmatrix} -2 \\ 1 \end{pmatrix}$

Find

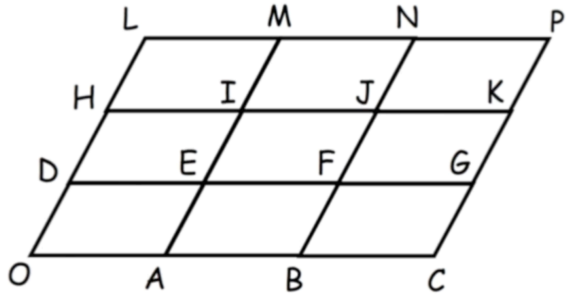
$3\mathbf{b}$ $\mathbf{a} - \mathbf{b}$

$4\mathbf{a} + 2\mathbf{b}$

$\mathbf{c} = \begin{pmatrix} -2 \\ q \end{pmatrix}$ $\mathbf{d} = \begin{pmatrix} p \\ 3 \end{pmatrix}$

Given $6\mathbf{d} - \mathbf{c} = \begin{pmatrix} 26 \\ 22 \end{pmatrix}$

Find p and q



$\overrightarrow{OA} = \mathbf{a}$ $\overrightarrow{OD} = \mathbf{b}$

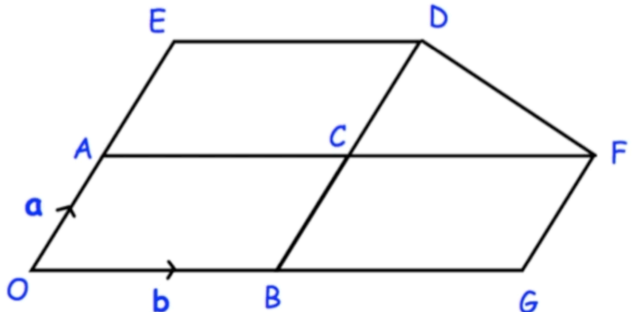
Find

$\overrightarrow{OG}$

$\overrightarrow{NA}$

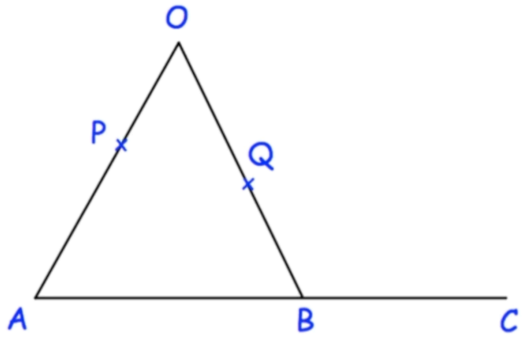
OBDE and OAFG are parallelograms.
B is the midpoint of OG and A is the midpoint of OE

Find $\overrightarrow{DF}$



Show $\overrightarrow{EG}$ and $\overrightarrow{DF}$ are parallel.

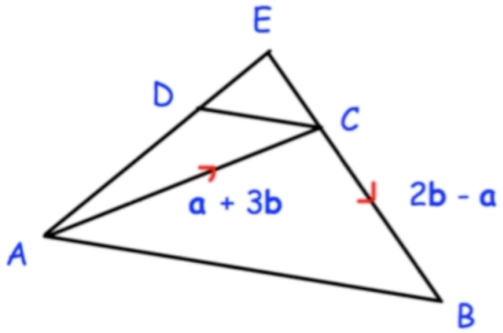
$\overrightarrow{OA} = \mathbf{a}$ $\overrightarrow{OB} = \mathbf{b}$



Q is the midpoint of OB
B is the midpoint of AC
Show PQC is a straight line.

$\overrightarrow{AB} = 2\mathbf{a}$ $\overrightarrow{AO} = 6\mathbf{b}$

AP:PO = 2:1



Prove DC is parallel to AB

$\overrightarrow{AC} = \mathbf{a} + 3\mathbf{b}$ $\overrightarrow{CB} = 2\mathbf{b} - \mathbf{a}$

$\overrightarrow{DE} = \frac{1}{5}\mathbf{a}$

$\overrightarrow{EC} = \frac{1}{5}\overrightarrow{CB}$

15 Days to Go Video

Revision Card Number: 17

Video Number: 299

A car drives 180 miles in 4 hours.
Calculate the average speed of the car.

Kevin runs 300 metres in 50 seconds.
Work out his average speed.

A train travels 135 miles at a speed of 45mph.
Work out how long the journey lasts.

A bird flies for 5 hours at an average speed of 19km/h.
Calculate how far the bird flies.

A helicopter flies 120 miles in 1 hour 30 minutes.
Calculate the average speed of the helicopter.

Roger drives for 2 hours 45 minutes at an average speed of 48mph.
How far does Roger drive?

A lorry travels 240 miles at an average speed of 50mph.
Calculate how long the journey lasts.
Give your answer in hours and minutes.

Miss Black completes a journey in 3 stages.
In stage 1, she drives at 40km/h for 45 minutes.
In stage 2, she drives at 60km/h for 2 hours 9 min
Altogether, Miss Black drives 171.6km in 3 hours 15 minutes.
What was her average speed in stage 3?

14 Days to Go Video

Revision Card Numbers: 15, 16

Video Numbers: 384, 385

A piece of glass has a volume of $30cm^3$
and a mass of 75g.
Calculate the density of the glass.

A glass paperweight has a mass of 420g
The density of the glass is $2.5g/cm^3$
Find the volume of the paperweight.

Kylie has a solid glass cube.
The length of each side of the cube is 5cm
The density of the glass is $2.5g/cm^3$
Find the mass of the cube.

A box exerts a force of 7200N on a table
The area of the base of the box is $400cm^2$
Work out the pressure on the table.

A box is placed on the floor.
The area of the box in contact with the floor is $1.2m^2$
The pressure exerted on the floor is $2800N/m^2$
Work out the force exerted by the box on the floor.

Corbettmaths

Geometric Proof

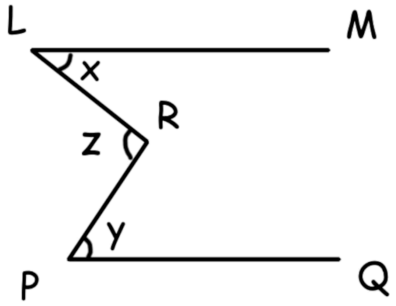
13 Days to Go

13 Days to Go Video

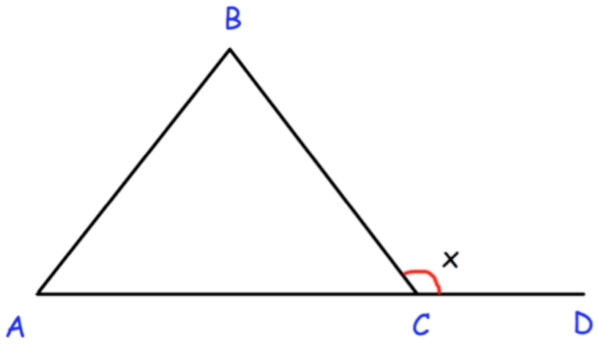
Revision Card Number: 18

Video Number: 67, 366

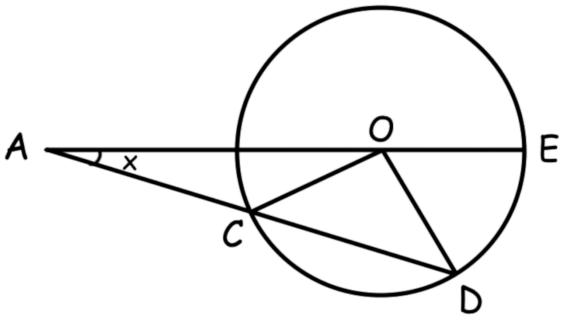
LM and PQ are parallel lines.
Prove that x + y = z



ABC is an isosceles triangle.
AB = BC
ACD is a straight line.
Angle BCD = x
Prove ABC = 2x - 180



AOE is a straight line.
AC = OD
Angle OAC = x
Prove Angle DOE = 3x



Corbettmaths

Exact Trig Values

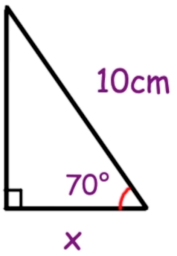
12 Days to Go

12 Days to Go Video

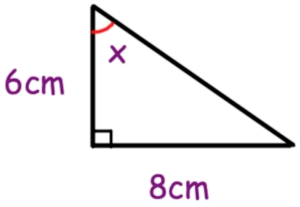
Revision Card Number: 84

Video Number: 341

Work out x



Work out x

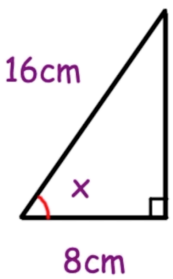


Write down the value of sin(30°)

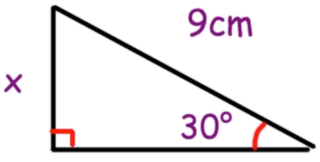
Write down the value of tan(45°)

Write down the value of cos(30°)

Work out x



Work out x



11 Days to Go Video

Video Number: 375

Find the next two terms for this geometric progression.

4, 8, 16, …, ….

Find the next two terms for this geometric progression.

3, 60, 1200, …, ….

Circle the geometric sequence

11, 9, 7, 5, …

1, 4, 9, 16, …

11, 21, 31, 41, …

1, 4, 16, 64, …

The third term of a geometric sequence is 80. The fourth term is 20.

Work out the difference between the first and fifth terms.

The first three terms of a geometric sequence are:

3, $6\sqrt{2}$, 24, …

Work out the next term.

S is a geometric sequence.
All terms of S are positive integers.
The first three terms of a S are:

8, x and 72

Find the value of x.

Corbettmaths

Practice Paper 3

10/9
Days to Go

10 Days to Go
Paper 2
Hints

9 Days to Go
Paper 2
Answers

GCSE Higher Practice Paper 3

Scan here for the question paper

Question 1: Algebraic Fractions - see 17 Days to Go
Question 2: Reading Histograms - see 75 Days to Go
Question 3: Direct Proportion - see 42 Days to Go
Question 4: Exact Trig Values - see 12 Days to Go
Question 5: Exponential Graphs - see 20 Days to Go
Question 6: Area under a Graph - see 30 Days to Go
Question 7: The nth term - see 37 Days to Go
Question 8: Inverse Functions - see 28 Days to Go
Question 9: Completing the Square - see 18 Days to Go
Question 10: Density - see 14 Days to Go
Question 11: Speed - see 15 Days to Go
Question 12: Vectors - see 16 Days to Go
Question 13: Quadratic Graphs - see 19 Days to Go
Question 14: Geometric Progressions - see 11 Days to Go
Question 15: Geometric Proof - see 13 Days to Go

8 Days to Go Video

Revision Card Number: 25

Video Number: 115

Solve $\frac{x+5}{3}+\frac{x+1}{2}=8$

Solve $\frac{2x+3}{5}+\frac{x-1}{10}=\frac{5}{4}$

Solve $\frac{2}{x+4}+\frac{1}{x+2}=1$

Solve $\frac{1}{2x-1}+\frac{2}{x+5}=1$

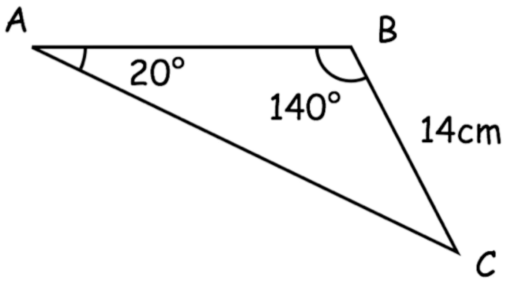
giving your answers to 2 decimal places

7 Days to Go Video

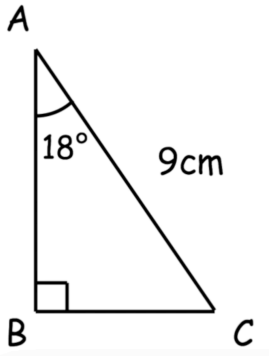
Revision Card Number: 8, 82, 83, 85

Video Numbers: 329 to 337

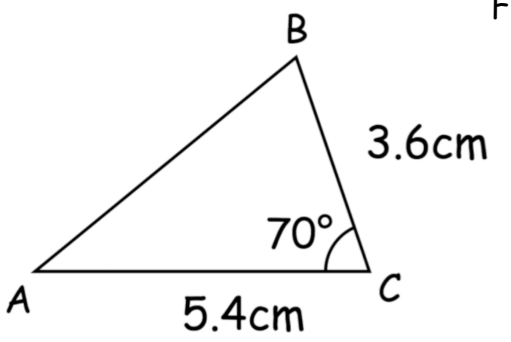
Find the length of AC



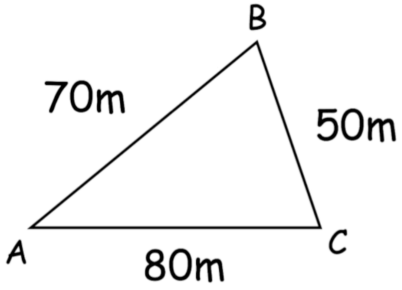
Find the length of AB



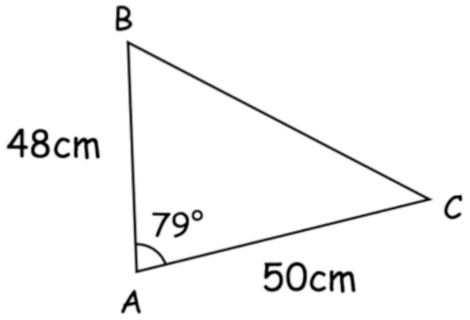
Find the area of ABC



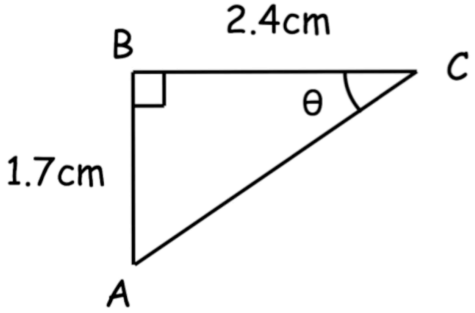
Find the size of angle ACB



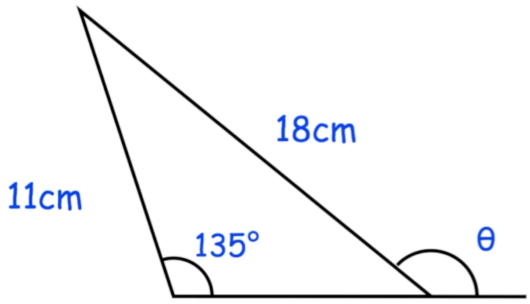
Find the length of BC



Find the size of angle ACB



Find the size of θ



Approach to Paper 1

6 Days to Go
Final Push

5 Days to Go
Number Recap

4 Days to Go
Stats Recap

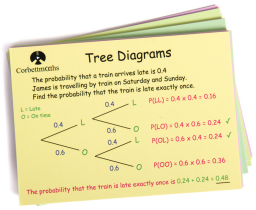
3 Days to Go
Algebra Recap

2 Days to Go
Shape Recap

1 Day to Go
Final Tips

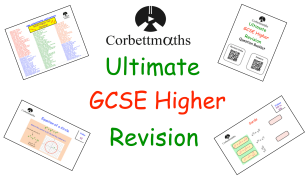
Useful Resources

Revision Cards

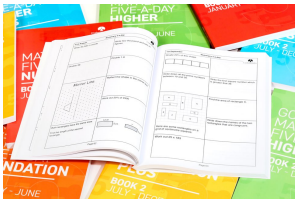


Checklist

Ultimate Revision Video



5-a-day Books



Notes

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