1st May **Foundation 5-a-day**

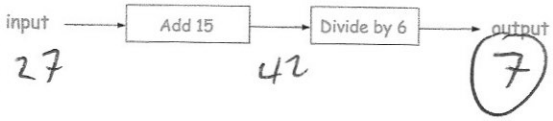
Corbettmaths

Find the value of $5x + 3y$ when $x = 6$ and $y = 7$

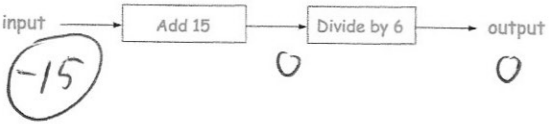
$5 \times 6 = 30$
$3 \times 7 = 21$

51

Find the output if the input is 27



Find the input if the output is 0

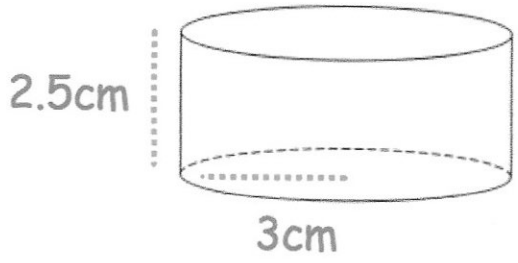


Simplify

$m^8 \div m^2$ m^6

Simplify

$(m^3)^2$ m^6



Find the volume of the cylinder

$\pi \times 3^2 \times 2.5$

$70.69\ cm^3$

$s = \frac{m}{c}$

Make m the subject

$m = cs$

Name: _____ 5-a-day Foundation

2nd May

Corbettmaths

Work out the median

3 8 4 8 3 5 9

3 3 4 (5) 8 8 9

5

Work out the range

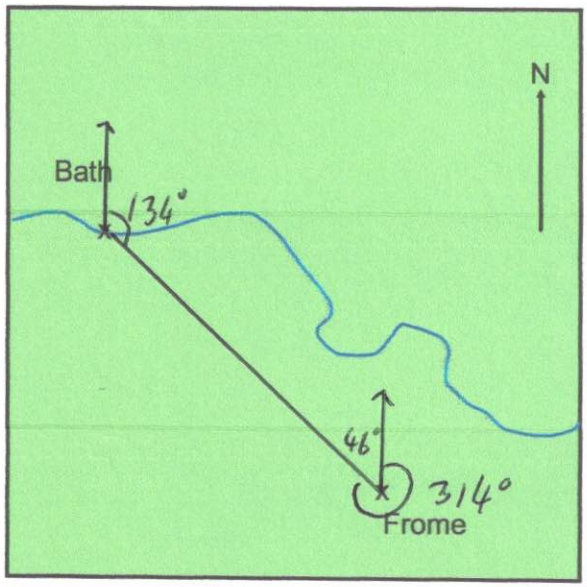
3 8 4 8 3 5 9

9 − 3 = 6

Ian is 1.83m tall
Donna is 6cm shorter

What is Donna's height in metres?

1.77m

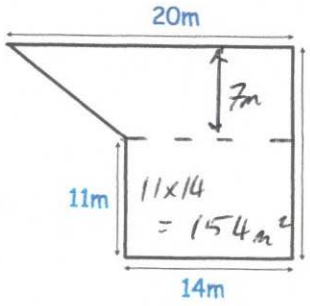


Find the bearing of Frome from Bath.

134°

Find the bearing of Bath from Frome.

314°



$\frac{1}{2}(a+b)h$

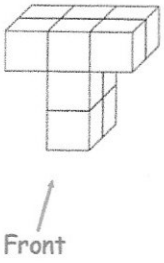
$\frac{1}{2}(14+20) \times 7$

$= 119m^2$

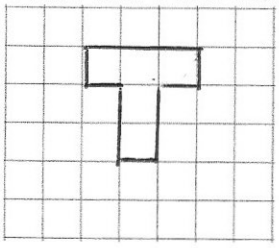
Find the area of the shape.

154 + 119 = 273 m²

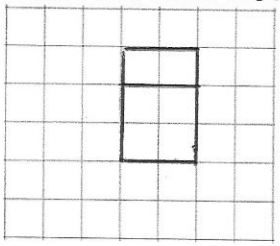
3rd May **Foundation 5-a-day** Corbettmaths



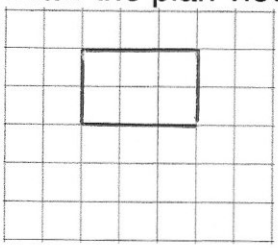
Draw the front view



Draw the side view



Draw the plan view



Write 60 as a product of primes, in index form.

60
2 30
3 10
2 5

$2^2 \times 3 \times 5$

Factorise 35w – 45y

$5(7w - 9y)$

Henry and Lily share 65 sweets in the ratio 2:3.

How many sweets does each person receive?

$2 + 3 = 5$

$65 \div 5 = 13$

$13 \times 2 = 26$ Henry

$13 \times 3 = 39$ Lily

4th May

Corbettmaths

Simplify

$6b - 4b$

$2b$

Simplify

2b x 3c

$6bc$

A cuboid has sides length 3cm, 4cm and 5cm.

What is its volume?

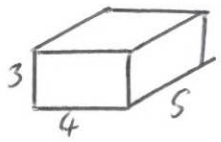
$3 \times 4 \times 5 = 60 cm^3$

What is its surface area?

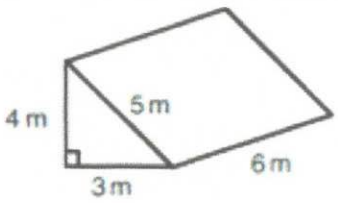
$3 \times 4 = 12$

$3 \times 5 = 15$

$4 \times 5 = 20$



$12 + 12 + 15 + 15 + 20 + 20 = 94 cm^2$



Calculate the volume

$\frac{1}{2} \times 3 \times 4 = 6 cm^2$

$6 \times 6 = 36 cm^3$

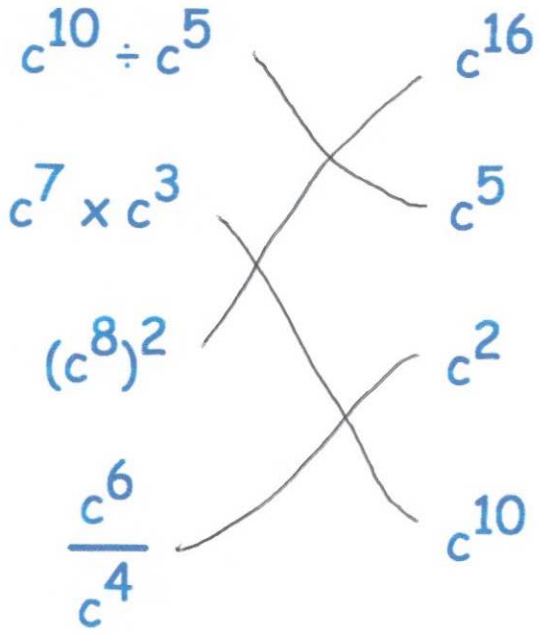
Increase £54 by 17%

$54.00 \div 100 = 0.54$

$0.54 \times 17 = 9.18$

$£54 + 9.18 = £63.18$

Match each of the expressions



5th May

Corbettmaths

SALE
⅓ OFF ALL ITEMS

The original price of a football is £8.16 ÷ 3 = 2.72

What is the sale price?

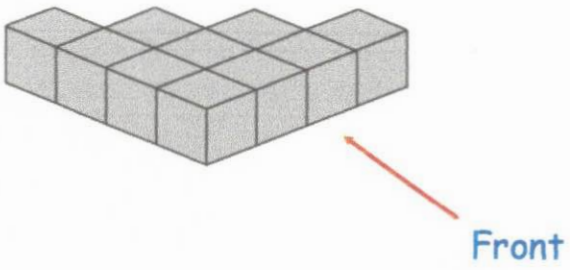
8.16 − 2.72 = 5.44

£5.44

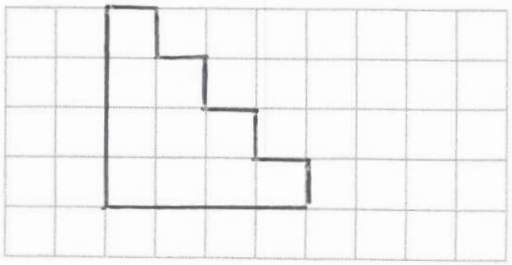
Apples cost *a* pence each.
Bananas cost *b* pence each.

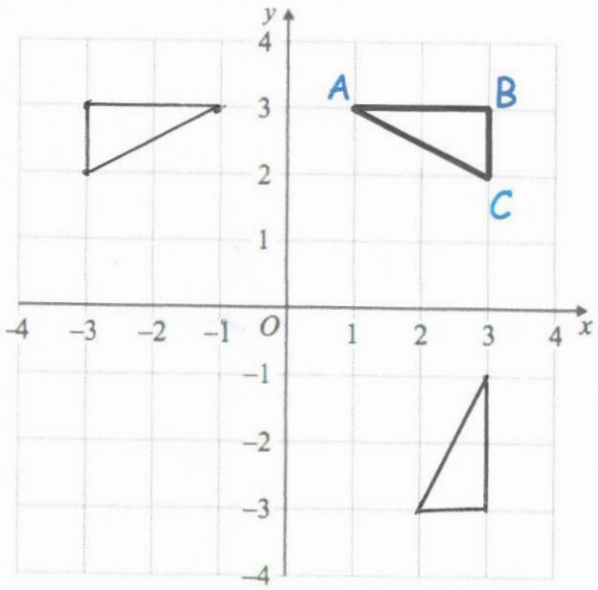
Write down an expression for the total cost, in pence, of 6 apples and 2 bananas.

6a + 2b



Draw the plan view





Reflect triangle ABC in the y-axis

Rotate triangle ABC 90 degrees clockwise about the origin,

6th May

Corbettmaths

3 paintings cost £186

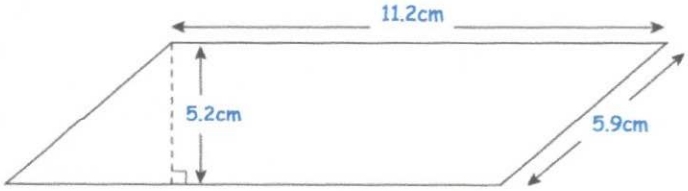
How much do 5 paintings cost?

$186 \div 3 = 62$

$62 \times 5 = 310$

£310

Not to scale



Calculate the area of the parallelogram

$11.2 \times 5.2 =$

$58.24 cm^2$

Work out

$100 - 5^2 \times 2$

$100 - 25 \times 2$

$100 - 50$

$= 50$

50

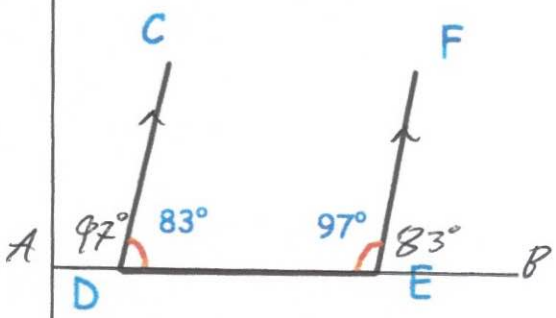
Find the nth term of

9 13 17 21 ... ...

$4n + 5$

Find the 50th term.

205



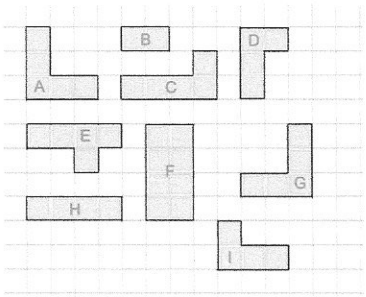
Are CD and EF parallel lines?

yes as $\angle ADC = \angle DEF$ (corresponding angles)

or $\angle CDE + \angle DEF = 180°$ (co-interior angles)

7th May	Foundation 5-a-day

Corbettmaths

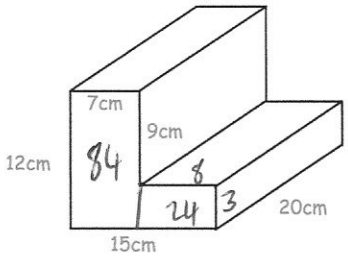


Which shape is congruent to A?

G

A man drives 230 miles in 5 hours.
What is his average speed?

$230 \div 5 = 46$ mph



Calculate the volume.

$84 + 24 = 108$

$108 \times 20 = 2160\ cm^3$

Faith is 1.42 metres tall.
Jo is 3 centimetres taller than Faith.

Work out Jo's height in metres.

1.45m

Patrick's height is 150 centimetres.
During one year, his height increase by 5%.

Work out the increase in Patrick's height.

10% = 15cm

5% = 7.5cm

8th May **Foundation 5-a-day** Corbettmaths

Simplify

$8x - 3y + x - 2y$

$9x - 5y$

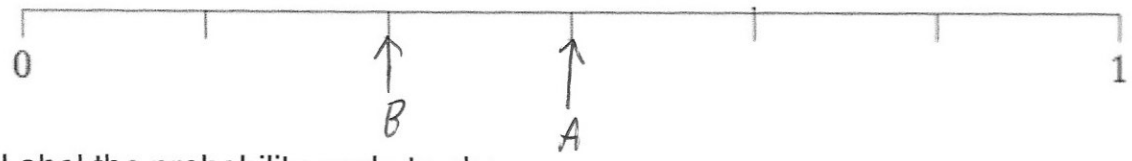
$2+3+2+1+3+4+5+2+3+3 = 28$

Calculate the mean

$28 \div 10 = 2.8$

Calculate the range

$5 - 1 = 4$



Label the probability scale to show:

a) The probability of rolling an even number on a dice. Label it with an A

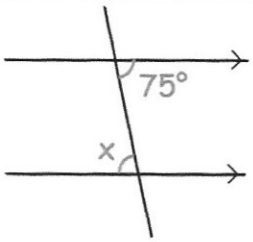
b) The probability of rolling a number below 3. Label it with a B

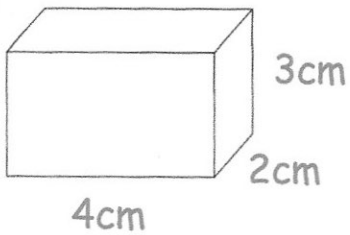
Work out the size of the angle marked x.

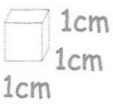
75°

Give a reason for your answer.

Alternate angles



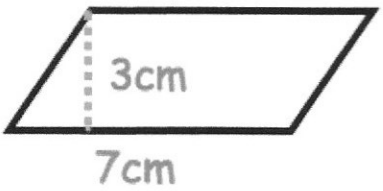




How many centimetre cubes are needed to fill the box?

$4 \times 2 \times 3 = 24 cm^3$

24

9th May	Foundation 5-a-day	Corbettmaths
Work out 20% of 30 10% = 3 3 + 3 = 6		6
Write down 5 numbers with a mode of 3 and a median of 4. 3 3 4 6 19		
Arrange in order, from smallest to largest $\frac{7}{12}$ $\frac{1}{3}$ $\frac{5}{6}$ $\frac{7}{12}$ $\frac{4}{12}$ $\frac{10}{12}$		$\frac{1}{3}$, $\frac{7}{12}$, $\frac{5}{6}$
 Calculate the area of this parallelogram		$3 \times 7 = 21\text{cm}^2$
\$1.50 = £1 A pairs of trainers cost \$30 in New York or £18 in London. Which is better value? £20		$30 \div 1.5 = £20$ London.

10th May	Foundation 5-a-day

Corbettmaths

Logan has £1.75
Hunter has £2.35

How much money does Hunter give Logan so that they have the same amount?

$235 - 175 = 60$

$60 \div 2 = 30p$

Shortbread

Serves (8) + (4)

Butter	150g	75g
Caster Sugar	75g	37.5
Plain Flour	175g	87.5
Cornflour	50g	25

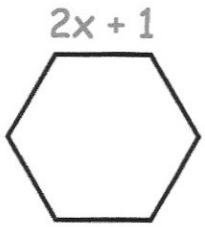
How much of each ingredient will he need for 12 people?

Butter: 225 g

Caster Sugar: 112.5 g

Plain Flour: 262.5 g

Cornflour: 75 g



Write an expression for the perimeter of this regular hexagon.

$12x + 6$

Solve $\frac{x}{2} + 3 = 7$

$\frac{x}{2} = 4$

$x = 8$

Martha has 40 postage stamps.

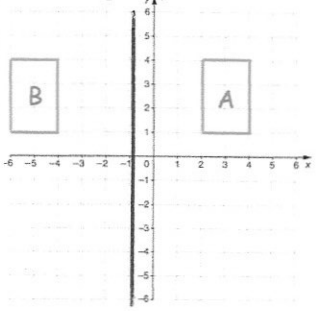
The ratio of second class to first class is 3:2.

Work out how many second class stamps Martha has.

$3 + 2 = 5$

$40 \div 5 = 8$

$8 \times 3 = 24$

11th May	Foundation 5-a-day
A bag contains 16 coloured balls. Three are red, five are blue and the rest are black. 8 Frances takes out a ball at random, what is the probability of a:	a) red $\frac{3}{16}$ b) black $\frac{8}{16} = \frac{1}{2}$
$\frac{5}{2}$ Write as a mixed number	$2\frac{1}{2}$
Draw the mirror line on the grid	$x=-1$ 
10 ÷ 2 ÷ 5 = 1 Put operations into the boxes to make the sum correct.	
Expand 2w(6 – 5w) $12w - 10w^2$	Expand a(a + c) $a^2 + ac$

Corbettmaths

12th May	Foundation 5-a-day

Corbettmaths

Sarah normally earns £600 each month.
In December she is given a bonus of a $\frac{1}{5}$ of her normal pay.

Work out her total pay for December.

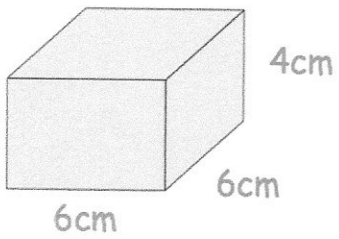
$$\begin{array}{r} 120 \\ 5\overline{)600} \end{array}$$

$600 + 120 = £720$

$\sqrt{x} = 8$

What is the value of x?

$x = 64$



Calculate the volume of the cuboid

$6 \times 6 \times 4 = 144\ cm^3$

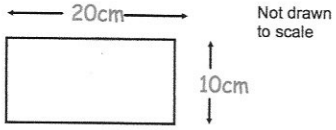
Find the value of:

$$\frac{3w + 1}{10}$$

When w = 5

$$\frac{3 \times 5 + 1}{10} = \frac{16}{10}$$

1.6



The length of the rectangle is increased by 20%.
The width of the rectangle is increased by 5%.

FInd the area of the enlarged rectangle.

20% of 20 = 4 length: 24cm
5% of 10 = 0.5 length: 10.5cm

$24 \times 10.5 = 252\ cm^2$

Name: _____ 5-a-day Foundation

13th May

Corbettmaths

Write as a mixed number

$\frac{5}{3}$

$1\frac{2}{3}$

The population of an island in 2000 was 2385
By 2015 the population has decreased by 2/5

What was the population of the island in 2015?

$2385 \div 5 = 477$

$477 \times 2 = 954$

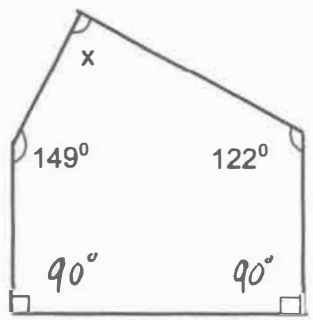
$2385 - 954 = 1431$

Make a the subject

$a + c = g$

$-c \quad -c$

$a = g - c$



Find the value of x

$540° - 451°$

$= 89°$

$\frac{4}{9} + \frac{1}{2}$

$\frac{8}{18} + \frac{9}{18}$

$= \frac{17}{18}$

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

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

$\frac{1}{2} \times \frac{4}{3} = \frac{4}{6} = \frac{2}{3}$

14th May — **Foundation 5-a-day** — Corbettmaths

3.4 ÷ 4

$$4\overline{)3.^{3}4^{2}0} = 0.85$$

0.85

7.2 ÷ 5

$$5\overline{)7.^{2}2^{2}0} = 1.44$$

1.44

Increase £40 by 30%

10% = £4

30% = £12

40 + 12 = £52

Decrease £260 by 5%

10% = £26

5% = £13

260 − 13 = £247

spinner 1

spinner 2	1	2	3
2	2	4	6
3	3	6	9

Two spinners are spun. The scores are multiplied together to give a total score.

Complete the table.

What is the probability of an odd total score?

$\frac{1}{3}$

Omar is organising a charity concert at school.
The concert is sold out.
The hall holds 31 rows of 19 seats.
Each person will pay £5.

How much money will Omar raise for charity?

$$\begin{array}{r} 31 \\ \times\ 19 \\ \hline 589 \end{array} \qquad \begin{array}{r} 589 \\ \times\ 5 \\ \hline 2945 \end{array}$$

£2945

Candles normally cost £6 each.

Two websites have special offers

Corbettmaths Candles	Candles R'us
Buy 3 get 1 free	20% off
7 lots of 4 + 2 more	30 × 6 = 180
7 free	10% = 18
	20% = 36

£144

£138

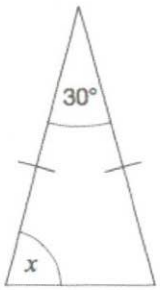
Laura wants to buy 30 candles.
Which website should Laura use?

Corbettmaths Candles

Saves £6

15th May

Corbettmaths



Find x

$180 - 30 = 150$

$150 \div 2 = 75°$

Martin is x years old.
Jennifer is 6 years younger than Martin.
Connor is three times as old as Martin.

Write an expression for Jennifer's age.

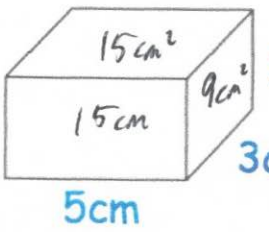
$x - 6$

Write an expression for Conner's age.

$3x$

Multiply out 6(x - 3)

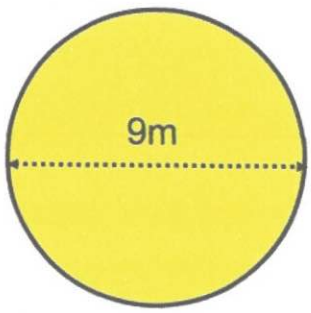
$6x - 18$



top = 15cm²
bottom = 15cm²
left = 9cm²
right = 9cm²
front = 15cm²
back = 15cm²

Calculate the surface area of the cuboid

$78 cm^2$



Calculate the area of the circle

$\pi \times r^2$

$\pi \times 4.5^2$

$63.617 cm^2$

16th May

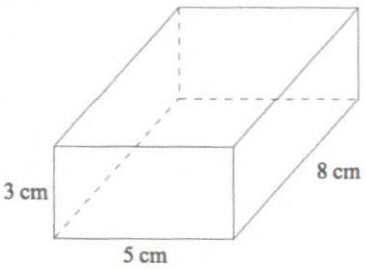
Corbettmaths

	London	New York	Beijing
High	29	30	41
Low	-3	-10	2
	32	40	39

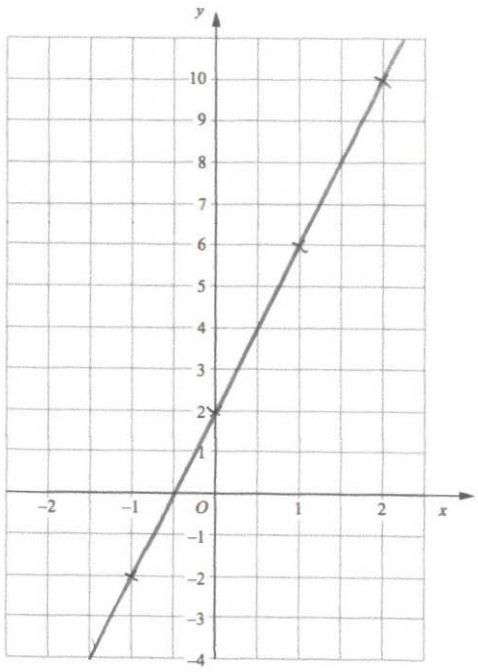
Which city had the largest difference between their high and low temperature?

New York

Calculate the volume



$3 \times 5 \times 8 = 120 cm^3$



Complete the table of values for $y = 4x + 2$

x	-1	0	1	2
y	-2	2	6	10

On the grid, draw the graph of $y = 4x + 2$

Simplify

$\frac{c^6}{c^4}$

c^2

Simplify

$(c^8)^2$

c^{16}

17th May

Corbettmaths

Write 0.06 as a fraction in its simplest form

$\frac{6}{100} = \frac{3}{50}$

Write 12% as a fraction in its simplest form

$\frac{12}{100} = \frac{6}{50} = \frac{3}{25}$

Simplify

8m – 2m

6m

Simplify

m + m + m + m

4m

Round the number 7.873 to one decimal place.

7.9

Round the number 7.873 to two decimal places.

7.87

Work out an estimate for

$$\frac{20.2 \times 698.1}{19.8 \times 5.3}$$

$\frac{20 \times 700}{20 \times 5} = \frac{14\,000}{100}$

$= 140$

Mrs Jenkins is organising a charity raffle.
She sells 300 tickets for £3 each. £900
The probability that someone wins a prize is 0.2 60
Each prize cost £8 $\times 60 =$ £480
The profit is donated to charity.

Work out how much money Mrs Jenkins donates to charity.

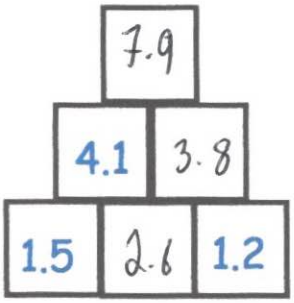
£420

18th May

Corbettmaths

The number in each block is found by adding the two blocks directly beneath it.

Find the missing numbers.



Expand

$5(x + 3)$

$5x + 15$

Expand

$y(y - 4)$

$y^2 - 4y$

Here are the first five terms of a number sequence.

3 8 13 18 23 28

Here are the first four terms of another number sequence.

−2 4 10 16 22 28

Find two numbers that are in both number sequences.

28 & 58

34 40 46 52 58

Sarah makes cupcakes.
She makes 20 cupcakes per hour.

She makes cupcakes for 3¼ hours each day, for 5 days of the week.

The cupcakes are packed into boxes that hold 6 cupcakes.

How many ~~cupcakes~~ boxes are needed to hold all the ~~cupcakes~~ Sarah has made in 5 days?

$3.25 \times 20 = 65$ cupcakes a day

$65 \times 5 = 325$ a week

$325 \div 6 = 54.16$

55 boxes

19th May **Foundation 5-a-day**

Corbettmaths

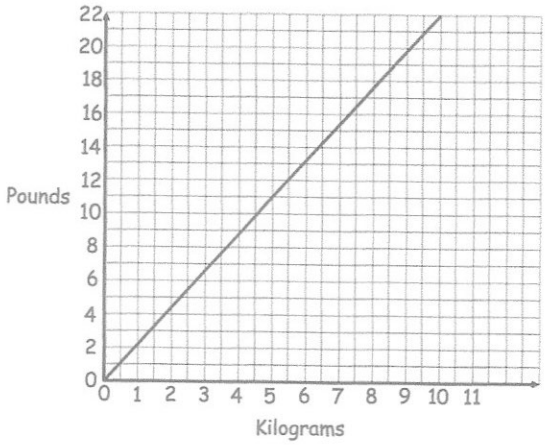
$\boxed{-2} + \boxed{2} = \boxed{0}$

$\boxed{-5} + \boxed{7} = \boxed{2}$

7	5	2	-2	-5

Use the numbers above to complete the sums.

Shown below is a conversion to change between kilograms and pounds.

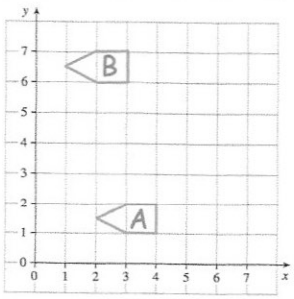


Using the graph, convert 10 kilograms to pounds.

22 pounds

Convert 110 pounds to kilograms.

50 kg



Write down the translation vector that would take A to B.

$\begin{pmatrix} -1 \\ 5 \end{pmatrix}$

The price of a new car is £18000

In a sale, the price is reduced by $\frac{2}{9}$

$18000 \div 9 = 2000$ $2000 \times 2 = 4000$

Ryan buys the car in the sale.

He pays a £2000 deposit and pays the rest over 20 monthly payments.

Find the cost of each monthly payment.

$18000 - 4000 = 14000$

$14000 - 2000 = 12000$

$12000 \div 20 = £600$

20th May

Corbettmaths

Monday	Tuesday	Wednesday	Thursday	Friday
2	−4	−1	3	0

Put these temperatures in order from lowest to highest

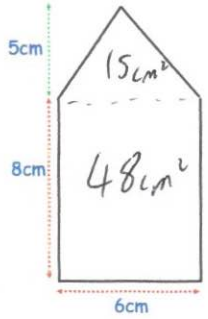
−4 , −1 , 0 , 2 , 3

Work out the difference between the lowest and highest temperatures

7°c

Work out the median of the temperatures

0°c



Calculate the area

63cm²

Work out the value of

3^4

3 × 3 × 3 × 3

81

Work out the value of

9^3

9 × 9 × 9

729

Factorise

$12y + 16$

4(3y + 4)

729 is both a square number and a cube number.

Find two other numbers that are both square numbers and cube numbers.

1 , 64

21st May

Corbettmaths

Solve $\frac{x}{4} = 11$ ×4 ×4 $x = 44$	Solve $4x + 2 = 22$ −2 −2 $4x = 20$ ÷4 ÷4 $x = 5$
Nicola has y marbles. Sean has 45 marbles. Vicky has 10 marbles. Write down an expression for the total number of marbles they have.	$y + 55$
Find the value of 2x - 4 When x = 10 $2 \times 10 - 4$ $20 - 4 = 16$	Find the value of 10 - 2x When x = 3 $10 - 2 \times 3$ $10 - 6 = 4$
Write these numbers in order of size. Start with the smallest number. $66\frac{2}{3}\%$ 90% 75% 87% 73% $\frac{2}{3}$ 0.9 $\frac{3}{4}$ 0.87	$\frac{2}{3}$, 73%, $\frac{3}{4}$, 0.87, 0.9
Write 28 as a product of primes. Give your answer in index form. 28 2 14 2 7	$2 \times 2 \times 7$ $2^2 \times 7$

22nd May **Foundation 5-a-day**

Corbettmaths

Work out 0.9 x 1.4

9 x 14 = 126

1.26

Work out 0.4 x 0.07

4 x 7 = 28

0.028

Tilly the dog barks every 9 seconds.
Billy the dog barks every 12 seconds.
They both bark at the same time.

After how many seconds will they next bark at the same time?

9 18 27 (36)
12 24 (36)

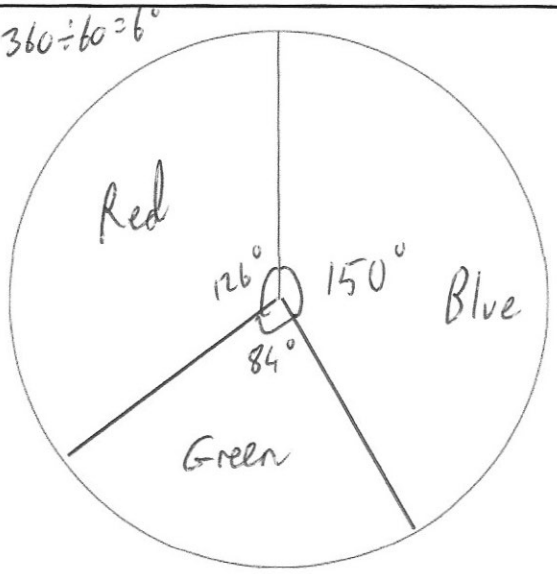
36 seconds

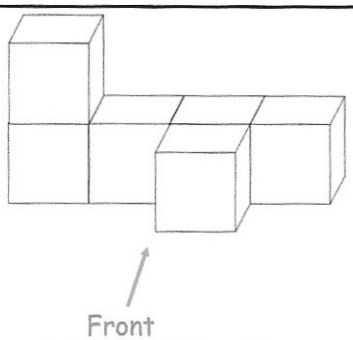
The table gives information about the colour of cars in a car park.

Colour	Frequency	
Blue	25 x6	150°
Green	14 x6	84°
Red	21 x6	126°
	60	

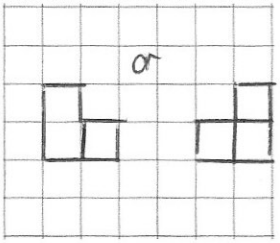
Calculate the size of each angle and then draw an accurate pie chart.

360 ÷ 60 = 6°





Draw the side elevation



23rd May

Corbettmaths

Write 0.85 as a fraction in its simplest form

$\frac{85}{100} = \frac{17}{20}$

Write 40% as a fraction in its simplest form

$\frac{2}{5}$

Solve $7y + 3 = 38$

$-3 \quad -3$

$7y = 35$

$\div 7 \quad \div 7$

$y = 5$

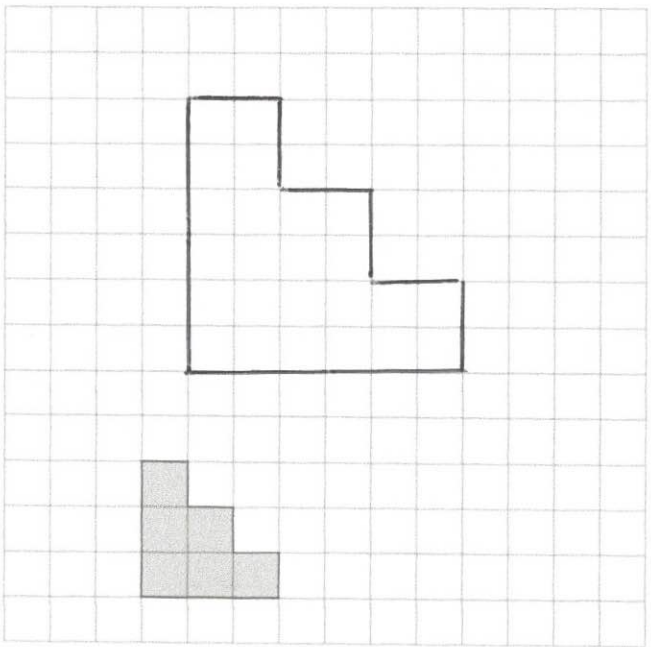
Solve $4(y - 2) = 20$

$4y - 8 = 20$

$4y = 28$

$y = 7$

Enlarge the shape by scale factor 2



Write 60 as a product of primes.

Give your answer in index form

60
2 30
2 15
3 5

$2 \times 2 \times 3 \times 5$

$2^2 \times 3 \times 5$

Name: _____ 5-a-day Foundation

24th May

Corbettmaths

Increase $6 by 5%

10% = 0.60

5% = 0.30

$6.30

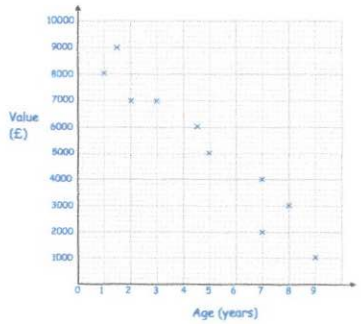
Decrease 90kg by 20%

10% = 9

20% = 18

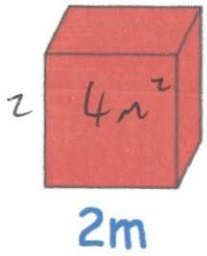
90 - 18

= 72kg



What type of correlation is shown?

Negative



Find the volume of the cube

2 × 2 × 2 = 8m³

Find the surface area of the cube

6 × 4 = 24m²

Solve 8(x + 3) = 120

8x + 24 = 120

-24 -24

8x = 96

÷8 ÷8

x = 12

Michael cycles at an average speed of 20mph.

How far does he cycle in 3 hours?

d = s × t

= 20 × 3 = 60 miles

Michael cycles at an average speed of 20mph.

How far does he cycle in 45 minutes?

d = s × t

= 20 × 0.75 = 15 miles

25th May **Foundation 5-a-day**

Corbettmaths

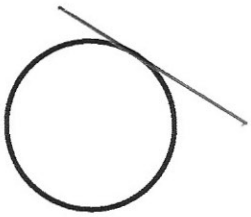
In a class of 20 students, 12 are male.

What fraction of the class are male?

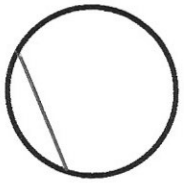
$\frac{3}{5}$

What percentage of the class are male?

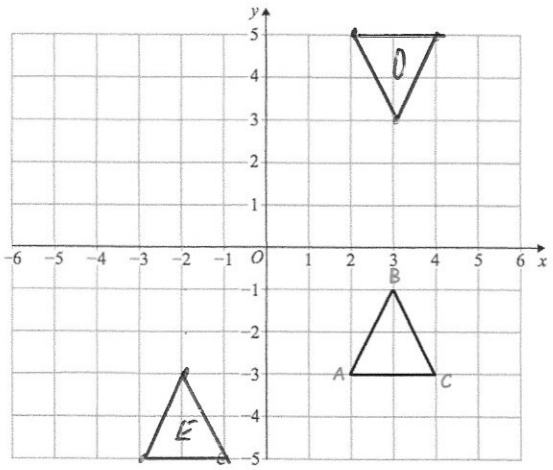
60 %



Draw the tangent



Draw a chord



Reflect triangle ABC using the mirror line y = 1

Label the triangle, D.

Translate triangle ABC by the vector

$\begin{pmatrix} -5 \\ -2 \end{pmatrix}$

Label the triangle, E.

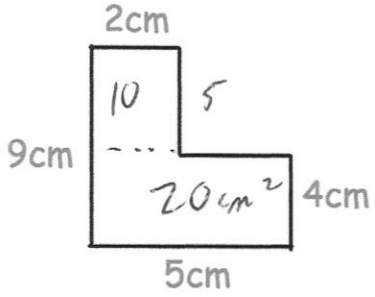
A first class stamp costs 67p and second class stamp costs 58p
The ratio of first class stamps to second class stamps that George buys is 1:4
He bought 20 stamps. 4 16

20 ÷ 5 = 4
4 × 1 = 4
4 × 4 = 16

How much did the stamps cost George?

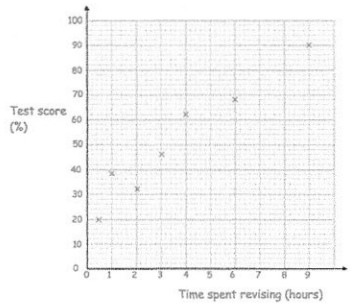
4 × 67 = 268
16 × 58 = 928

£11.96

26th May	Foundation 5-a-day
Expand $2y(3y + 5)$ $6y^2 + 10y$	Corbettmaths
Four rulers cost £3.60, what would seven rulers cost? 90p each 7 x 90	£6.30
Riaz buys 20 cameras. He pays £84 for each camera. He sells each camera for 45% more than he paid for them. How much profit does he make?	20 x 84 = £1680 10% = £168 5% = £84 40% = £672 672 + 84 = £756
	Calculate the area 30cm²
Mrs Jenkins gives £400 to her children Ally, Barry and Cat in the ratio 1:2:5. 8 How much do they each receive?	400 ÷ 8 = 50 £50, £100, £250

27th May **Foundation 5-a-day**

Corbettmaths

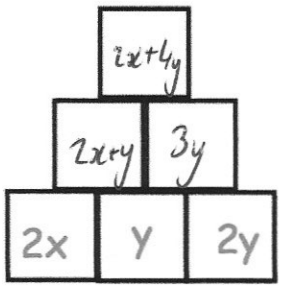


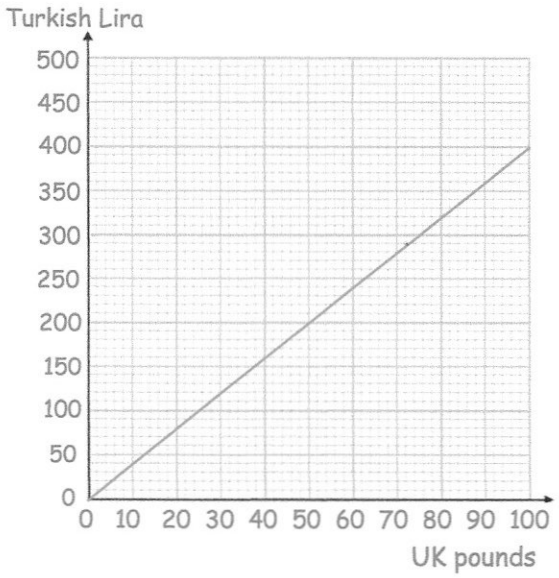
What type of correlation is shown?

Positive

The expression in each block is found by adding the two blocks directly beneath it.

Find the missing expressions.





Convert £20 into Turkish Lira

80 Lira

Which is worth more £70 or ₺290?

₺290

Estimate 29.1 x 5.9

$\approx 30 \times 6$

180

28th May

Corbettmaths

Work out

$3^3 - 4^2$

$27 - 16 = 11$

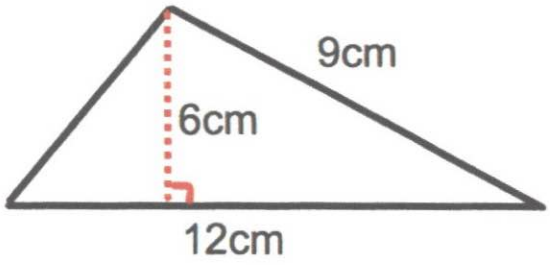
11

Find the area of the triangle

$\frac{1}{2} b \times h$

$\frac{1}{2}(12) \times 6$

$6 \times 6 = 36cm^2$



£1 = 4.5 Polish zloty

Convert £20 into zloty

$20 \times 4.5 = 90$ zloty

Convert 900 zloty into pounds

£20 = 90 zloty

£200 = 900 zloty

£200

The mean number of goals scored in a season by seven players were:

48 32 0 62 11 21 43

a) Calculate the mean

$217 \div 7 = 31$

b) An eighth player brings the mean goals scored up to 33. How many goals did he score?

$8 \times 33 = 264$

$264 - 217 = 47$

One angle in an isosceles triangle is 40^0.

Write down the sizes of the other two angles.

$40°, 100°$

Write two different possible answers.

$70°, 70°$

29th May

Corbettmaths

A holiday normally costs £700.

A sign says

$\frac{1}{5}$ off

$$5\overline{)700} = 140$$

What is the new cost?

$$\begin{array}{r} 6\not{7}'00 \\ -\ 440 \\ \hline 560 \end{array}$$

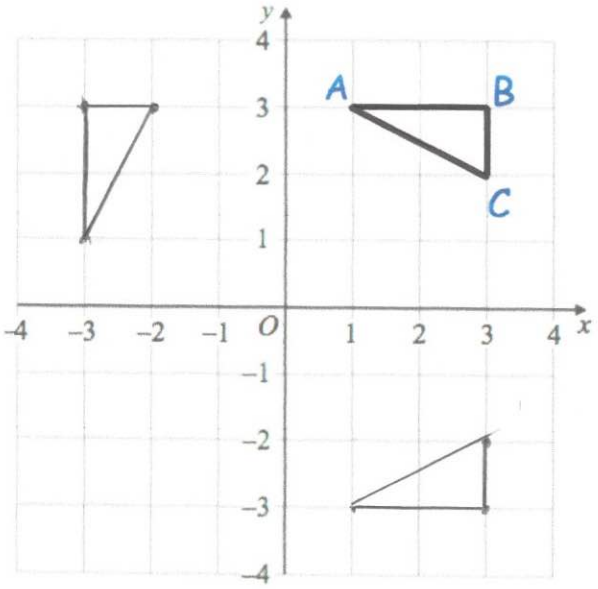
£560

A rugby team can win, draw or lose a match

Result	Win	Draw	Lose
Probability	0.4	0.35	0.25

Find the missing probability

0.25



Reflect triangle ABC in the x-axis

Rotate triangle ABC 90 degrees anti-clockwise about the origin,

Estimate the value of

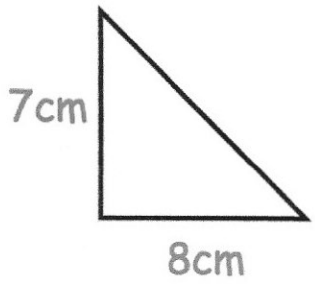
$$\sqrt{\frac{50.77}{0.513}} \approx \sqrt{\frac{50}{0.5}}$$

$$\sqrt{100}$$

10

30th May **Foundation 5-a-day**

Corbettmaths



Calculate the area

$\frac{1}{2}(8) \times 7$

$= 4 \times 7 = 28\text{cm}^2$

Write down the cube root of 64

$\sqrt[3]{64}$

4

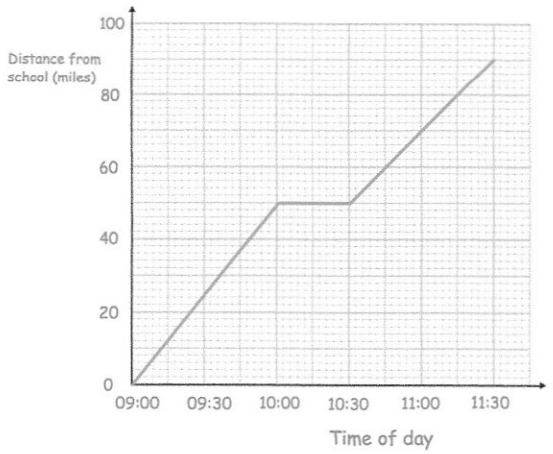
$\frac{2}{5} \times \frac{3}{10} = \frac{6}{50}$

$\frac{3}{25}$

$\frac{9}{10} - \frac{1}{3}$ $\frac{27}{30} - \frac{10}{30}$

$\frac{17}{30}$

The distance-time graph shows the journey of a car.



How far had the car travelled when it first stopped?

50miles

Work out the speed of the car between 9am and 10am.

50mph

31st May

Corbettmaths

Oranges cost x pence each.

Write an expression for the total cost of 5 oranges.

$5x$

Bananas cost y pence each.

Write an expression for the total cost of one orange and one banana.

$x + y$

Solve $4y + 6 = 12$

$-6 \quad -6$

$4y = 6$

$\div 4 \quad \div 4$

$y = 1.5$

Solve $10x - 3 = 8$

$+3 \quad +3$

$10x = 11$

$\div 10 \quad \div 10$

$x = 1.1$

The probability of James winning a competition is 0.03

What is the probability that James does not win the competition?

0.97

Make w the subject

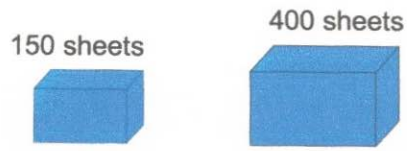
$4w + c = m$

$-c \quad -c$

$4w = m - c$

$\div 4 \quad \div 4$

$w = \frac{m - c}{4}$



$75 \div 150 = 0.5p$ per page/sheet

$208 \div 400 = 0.52p$ per page/sheet

Which of the two packets gives the better value for money?
You must show your working.

Small pack is better value.