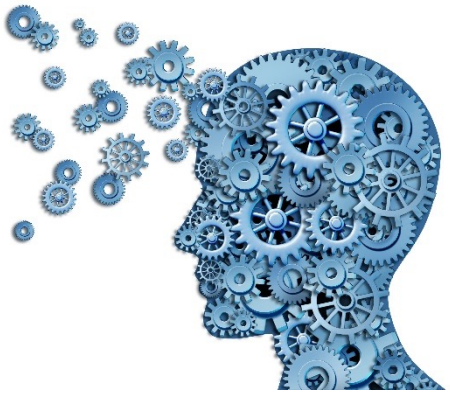
Kettlethorpe
HIGH SCHOOL

MATHS

Year 8 | Delta

Name:

Set:

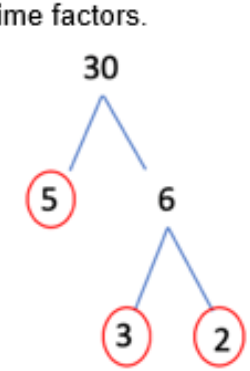


Unit	Topic	Complete
1	Factors and Powers	
2	Perimeter, Area and Volume	
3	Equations	
4	Fractions, Decimals and Percentages	
5	Experimental Probability	
6	2D shapes and 3D solids	
7	Real life graphs	
8	Coordinates and graphs	
9	Working with powers	
10	Constructions and loci	
11	Scale drawings and measure	
12	Analysing and displaying data	

Delta Unit 1: Factors and Powers

Highest Common Factor and Lowest Common Multiple

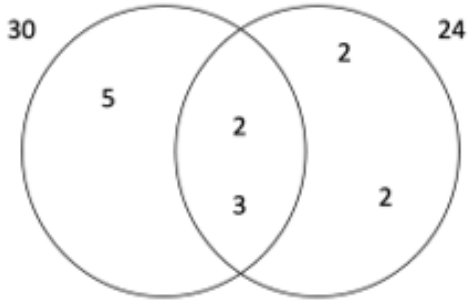
Step 1: Write the numbers as a product of their prime factors.



30 = 2 x 3 x 5

24 = 2 x 2 x 2 x 3

Step 2: Construct a Venn Diagram.



Step 3:
HCF = Multiply middle = 2 x 3 = 6

Step 4:
LCM = Multiply all = 2 x 2 x 2 x 3 x 5 = 120

Laws of Indices

Anything to the power of 1is itself, e.g. $5^1 = 5$.

Anything to the power of 0 is 1, e.g. $7^0 = 1$.

When multiplying you add powers,
e.g. $a^5 \times a^8 = a^{13}$.

When dividing you subtract powers,
e.g. $b^{11} \div b^4 = b^7$

When brackets are involved, you multiply powers, e.g. $(c^2)^3 = c^6$.

Estimating

Estimating is finding a value which is close enough to the right answer.
To estimate you should round to 1 significant figure.

E.g. $\frac{299.85-110.2}{0.48} = \frac{300-100}{0.5} = \frac{200}{0.5} = 400$

Standard Form

Standard form is a value between 1 and 10 multiplied by a power of 10.
E.g.

$1.2 \times 10^3 = 1200$ $\quad$ $9.832 \times 10^7 = 98{,}320{,}000$

$6.42 \times 10^{-5} = 0.0000642$ $\quad$ $4.95 \times 10^{-3} = 0.00495$

Kettlethorpe HIGH SCHOOL

MATHS

Year 8 | Half-term 1: *Factors and Powers*

Literacy

Unscramble these key words, then give definitions:

- soperw
- mdorsfnatdra
- timesmignat

Fluency

1) Change into ordinary form

a) 3.45×10^{4}
b) 3.45×10^{5}
c) 8.27×10^{8}
d) 6.1×10^{-4}
e) 8.2×10^{-3}
f) 7.14×10^{-6}

2) Change into standard form

a) 5600000
b) 892000
c) 1020000000
d) 0.0008
e) 0.055
f) 0.0000807

3) Write the following in size order.

0.038×10^{-2} 3800×10^{-4} 380 0.38×10^{-1}

Problem Solving

Calculate the area and perimeter of this rectangle. Giving your answer in standard form.

1.2×10^{3}

4.5×10^{1}

Reasoning

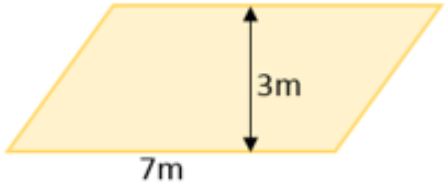
1) Is 51.3×10^{7} in standard form? Explain your reasoning.

2) Is 9.03×10^{-3} in standard form? Explain your reasoning.

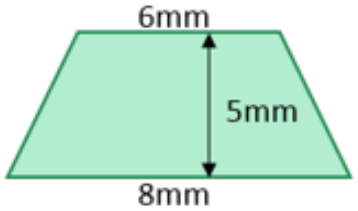
Delta Unit 2: Perimeter, Area and Volume

AREA

Area of triangle = ½ x base x height
= ½ x 12 x 5 = 30cm²

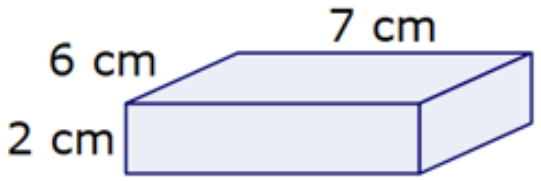


Area of parallelogram = base x height
= 7 x 3 = 21m²



Area of trapezium = ½(a + b) x height
= ½(8 + 6) x 5
= ½ x 14 x 5
= 35mm²

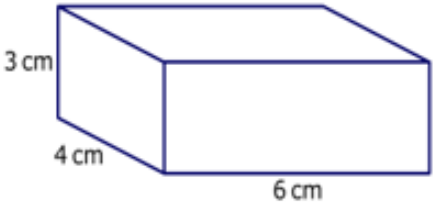
VOLUME OF CUBE/CUBOID



Volume = length x width x height
= 6 x 2 x 7 = 84cm³

SURFACE AREA OF CUBE/CUBOID

Find the area of each face then add them together.



Front = 6 x 3 = 18cm²
Back = 6 x 3 = 18cm²
Top = 6 x 4 = 24cm²
Bottom = 6 x 4 = 24cm²
Left = 4 x 3 = 12cm²
Front = 4 x 3 = 12cm²

Total Surface Area = 18 + 18 + 24 + 24 + 12 + 12
= 108cm²

Literacy

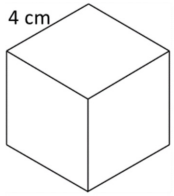
Give the definitions of:

- Trapezium
- Parallelogram
- Quadrilateral
- Prism

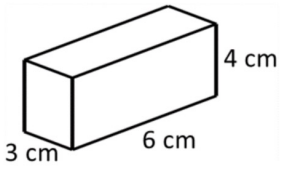
Fluency

1) Calculate the volume and surface area of these cuboids.

a)

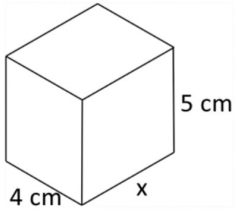


b)



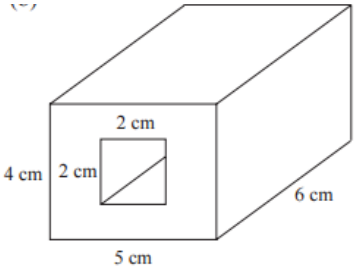
2) Calculate the volume and surface area of a cuboid with sides 3cm, 5cm, 9cm

3) The volume of this cuboid is $120cm^3$.
What is its surface area?



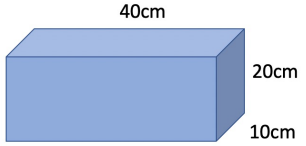
Problem Solving

Calculate the volume and surface area of this shape.



Reasoning

This cuboid is going to be filled with water at a rate of 1 litre every 15 seconds. Will it take more than 2 minutes to fill the cuboid? Explain how you get to the answer.



1Litre = $1000cm^3$

Delta Unit 3: Equations

Solving 1-step equations

Do the inverse to balance the equation to solve:

E.g.

$$e + 5 = 7$$
$$-5 \quad -5$$
$$e = 2$$

Solving 2-step equations

Do the inverse to balance the equation to solve:

E.g. $2h - 7 = 11$

$$+7 \quad +7$$
$$2h = 18$$
$$\div 2 \quad \div 2$$
$$h = 9$$

Solving equations with brackets

Expand the bracket then do the inverse to balance the equation to solve:

E.g. $2(3k + 4) = 46$

$$6k + 4 = 46$$
$$-4 \quad -4$$
$$6k = 42$$
$$\div 6 \quad \div 6$$
$$k = 7$$

Solving equations with the unknown on both sides

E.g. $5x - 4 = 2x + 20$

$$-2x \quad -2x$$
$$3x - 4 = 20$$
$$+4 \quad +4$$
$$3x = 24$$
$$\div 3 \quad \div 3$$
$$x = 8$$

Form and solve equations

Step 1:

Form an expression for the info given.

Step 2:

Form an equation from your expression.

Step 3:

Solve the equation.

E.g.
Abi is x years old.
Beth is 5 years older than Abi
Clare is twice Abi's age
The total of their ages is 49.
How old is Abi?

Step 1:
Abi = x, Beth = x + 5, Clare = 2x
Abi + Beth + Clare = x + x + 5 + 2x = 4x + 5

Step 2: $4x + 5 = 49$

Step 3:

$$4x + 5 = 49$$
$$-5 \quad -5$$
$$4x = 44$$
$$\div 4 \quad \div 4$$
$$x = 11$$

Abi is 11 years old

Literacy

Use key words to create a step-by-step method for solving equations.

Problem Solving

Abbie has a brother and a sister.
Abbie's brother is 5 years older then her.
Abbie's sister is half her age.
The sum of their ages is 35.

How old are each of the siblings?

Fluency

1) Solve following equations. Show each step clearly.

a) $7c + 10 = 38$

b) $5a + 1 = 36$

c) $20 = 5c + 10$

d) $4p + 8 = 10$

e) $4y - 6 = 2y + 5$

f) $23 - 3m = 5m + 7$

2) Solve these equations, showing each step clearly.

a) $10a - 3 = 2(4a + 5)$

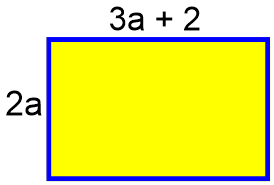
b) $5(2b + 3) = 2b + 9$

c) $5(3k + 3) = 5(4k - 4)$

d) $3(8j - 10) = 5(7j + 5)$

Reasoning

The perimeter of the shape below is 34cm.



Katie says a must be an even number.
Is she correct?

Delta Unit 4: Fractions, Decimals and Percentages

Recurring decimals

Use a bus stop to convert the fraction to a decimal. Remember the numerator goes inside the bus stop.

Put a dot over digits the recur.

E.G. $\frac{3}{11}$

$$11 \overline{)\, 3.0^{3}0^{8}0^{3}0^{8} \ldots} \quad 0.2727\ldots$$

$= 0.\dot{2}\dot{7}$

Percentage change

To work out the percentage increase or percentage decrease use the formula:

$$Percentage\ change = \frac{difference}{original} \times 100$$

E.G. Percentage decrease from £80 to £52:

Difference = £80 - £52 = £28

Percentage change = $\frac{28}{80} \times 100 = 35\%$

Reverse percentage

Step 1:
Find the percentage you have.
Step 2
Change the percentage to a multiplier.
Step 3:
Divide by the multiplier.

E.G. After a 20% increase I get paid £540.
What did I originally earn?

100% + 20% = 120% = 1.2
540 ÷ 1.2 = £450

Repeated percentage change

Step 1: Find what percentage multiplier.
Step 2: Use the formula, original x multiplier^{n}, where n is the number of times you are increasing or decreasing.

E.G. A shop reduces the prices by 10% every day. A shirt originally costs £25. How much will it cost in 3 days time?

Step 1: Multiplier = 100% - 10% = 90% = 0.9
Step 2: £25 x 0.9^{3} = £18.23

Literacy

Define compound:

Can you give any other areas the word compound might be used?

Fluency

Section A:

1) Nina earns £4.50 per hour. Her wage then increases by 2%. Three months later she receives a further wage increase of 3%. How much does Nina earn now per hour?

2) A TV costs £199. It is reduced by 5% in a sale. It is then reduced by a further 10%. How much does the TV cost now?

3) Paul has shares worth £300 in Resco. His shares increase by 4% every month for a year. How much will his shares now be worth?

Section B:

1. A jacket is reduced by 40% in a sale to £36. What was its original price?
2. A car depreciates in value by 30% during its first year. Its value now is £8960. What was its original price?
3. A coat is reduced by 20% in a sale. If it was originally £85, how much is it now?

Problem Solving

1) James invests $5000 into a bank account that gives interest at 1.5% per annum.
How much money should he have in the account after 7 years?

2) The value of a car depreciates at 6% per year. If the car is now worth £2000. How much was it worth when it was new 2 years ago?

Reasoning

James increases his prices by 10%. A week later he reduces his prices by 10%.

Are his prices back at their original amounts?

Delta Unit 5: Experimental Probability

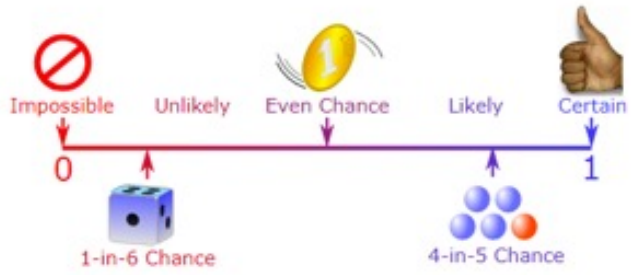
Calculating Probability

$$P(\text{event}) = \frac{\text{Number of ways the event can occur}}{\text{Total number of outcomes}}$$

E.g.
The probability of getting a heads when flipping a coin is $\frac{1}{2}$ = 0.5.
The probability of picking a heart (13 cards) from a full deck of cards (52 cards) = $\frac{13}{52} = \frac{1}{4} = 0.25$.

The Probability Scale

The probability scale is between 0 and 1.
Probabilities may be written as fractions, decimals or percentages.



Experimental Probability

Calculating the probability of an outcome based on data that has been collected.

E.G. A dice has been rolled 60 times.

Result	1	2	3	4	5	6
Frequency	20	5	12	10	7	6
Experimental Probability	$\frac{20}{60}$	$\frac{5}{60}$	$\frac{12}{60}$	$\frac{10}{60}$	$\frac{7}{60}$	$\frac{6}{60}$

$$Probability = \frac{Number\ of\ times\ event\ occured}{Total\ number\ of\ trials}$$

Is this experiment fair?

No, the dice isn't fair. All numbers should appear around 10 times, but the number 1 appears 20 times.

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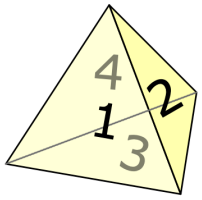
Year 8 | Half-term 3: *Experimental Probability*

Literacy

What does the word biased mean? Please use it in a sentence.

Fluency

This dice is rolled a large number of times. The results are in the table.



score	freq
1	103
2	93
3	100
4	104

Use these results to estimate the probability of scoring more than 2

Here is a spinner.
It is spun 900 times and the colour it lands on is recorded.

The table shows how the spinner landed.
Work out the relative frequencies for each colour.

colour	frequency	P(colour)
red	108	
green	306	
blue	81	
pink	189	
yellow	216	

At a factory, a sample of batteries is tested to check how long they can last.
Here are the results:

hours	frequency
$0 < h \leq 5$	14
$5 < h \leq 10$	19
$10 < h \leq 20$	42
$20 < h \leq 30$	14
$30 < h \leq 50$	11

Estimate the probability that a battery of this type will

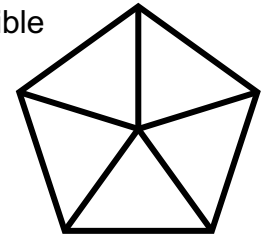
last 30 hours or less [2]

last between 20 and 30 hours [2]

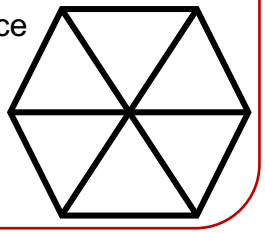
Problem Solving

Complete the spinners below:

Even number is impossible
3 is likely
5 is unlikely

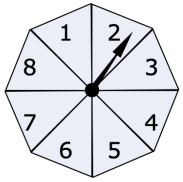


A square number is impossible
Odd number is even chance
Less then 10 is certain



Reasoning

This spinner is spun a large number of times. The results are in the table.



score	freq
1	62
2	61
3	56
4	60
5	63
6	56
7	63
8	59

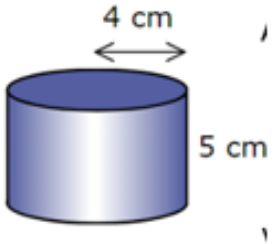
Is this spinner fair?
Explain your answer.

Delta Unit 6: 2D Shapes and 3D Solids

Cylinders

$Volume = Area\ of\ cross\ section \times Length$

E.G. find the volume of this cylinde



Area of cross section = πr^2

$= \pi \times 6^2 = 36\pi = 50.3\ cm^2$

Volume = $50.3 \times 5 = 251\ cm^3$

Area and Circumference of Circles

$Area = \pi r^2$ $\quad$ $Circumference = \pi d$

Area $= \pi \times r^2$

$= \pi \times 6^2$

$= 113\ cm^2$

Circumference $= \pi \times d$

$= \pi \times 12$

$= 37.7$ cm

Surface Area of Prisms:

The total area of all faces on a 3D solid.

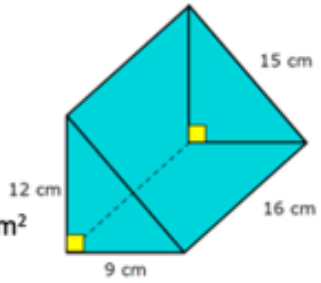
Front Face = $\frac{12 \times 9}{2}$ = 54cm²

Back Face = $\frac{12 \times 9}{2}$ = 54cm²

Bottom Face = 9×16 = 144cm²

Left Face = 16×12 = 192cm²

Right Face= 16×15 = 240cm²

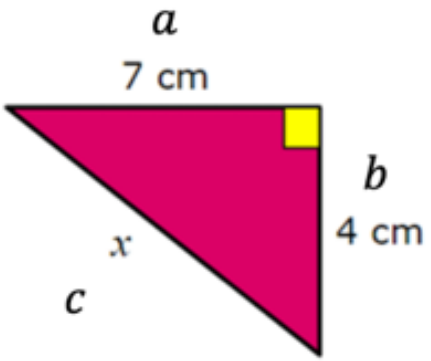


Total = 684cm²

Pythagoras

$a^2 + b^2 = c^2$ $\quad$ $c^2 - b^2 = a^2$

a and b are shorter sides. c is the hypotenuse



$a^2 + b^2 = c^2$

$7^2 + 4^2 = c^2$

$49 + 16 = c^2$

$65 = c^2$

$8.1 = c$

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Year 8 | Half-term 3: *2D Shapes and 3D Solids*

Literacy

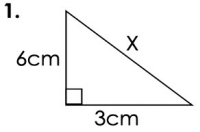
Fill in the blanks:

- The longest side of a _____ triangle is called the _____.
- _____ is the amount of space inside a 3D shape.
- The _____ of a circle is half the _____ of the circle.

Fluency

Find x. Give your answers to 2 decimal places.

1.



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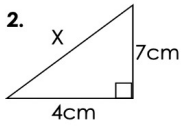

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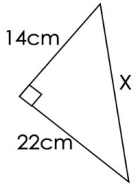

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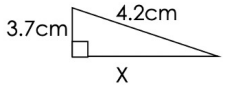

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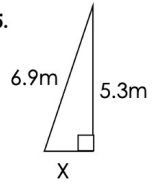

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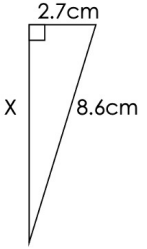
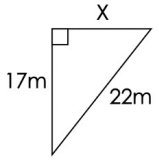


7.



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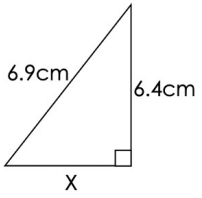

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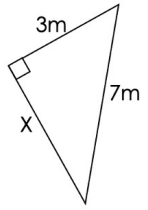
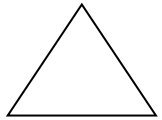


Problem Solving

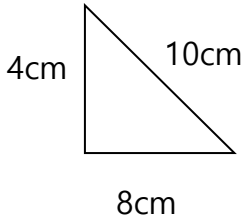
1) Find the height of this equilateral triangle with side length 6cm.



2) Calculate the length of the line segment connecting the points A (2, -7) and B (-1, -5)

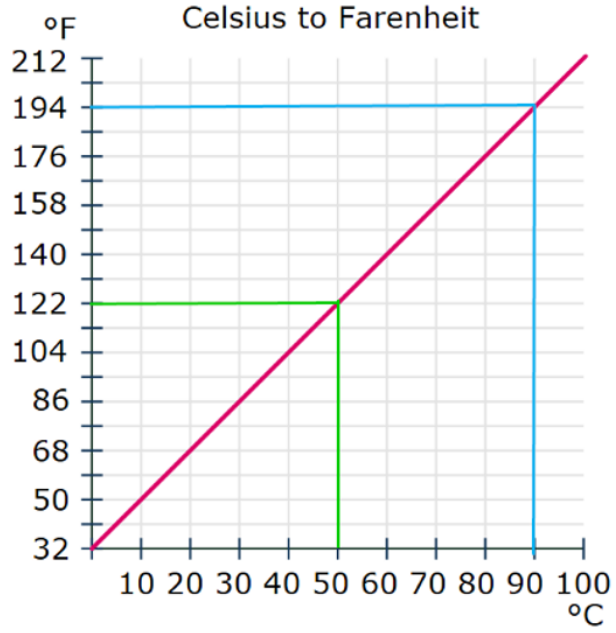
Reasoning

Is this triangle right-angled?
Explain your reasoning.



Delta Unit 7: Real-life graphs

Conversion Graphs



Using the graph:
Convert 50°C into °F

Answer: 122°F

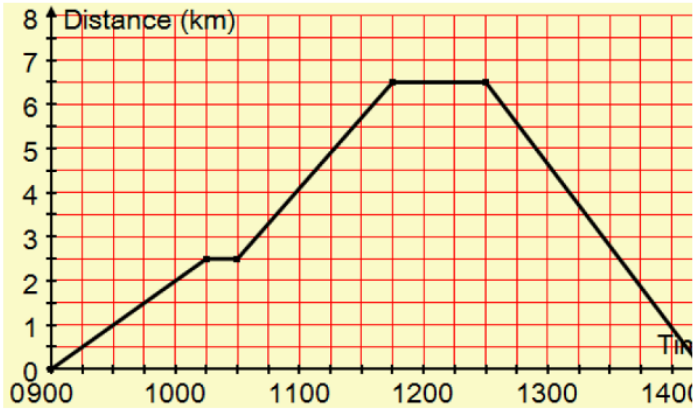
Convert 150°C into °F

50°C x 3 = 150°C so 122°F x 3 = 366°F

Convert 194°F into °C

Answer: 90°C

Distance-time Graphs



This graphs shows a walking group's hike.

At what time did the group stop to check directions?
10.15

How far did the group walk to their furthest destination?
6.5km

How long did they spend at their furthest destination?
45mins

At what time was the group walking quickest?
10.30 – 11.45 (steepest line)

What was the average speed for the return journey?
Speed = distance ÷ time
6.5 ÷ 1.75 = 3.7km/h

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MATHS

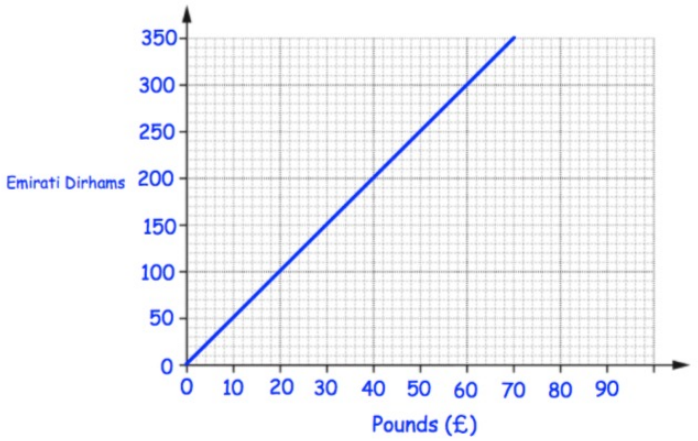
Year 8 | Half-term 4: *Real-life graphs*

Literacy

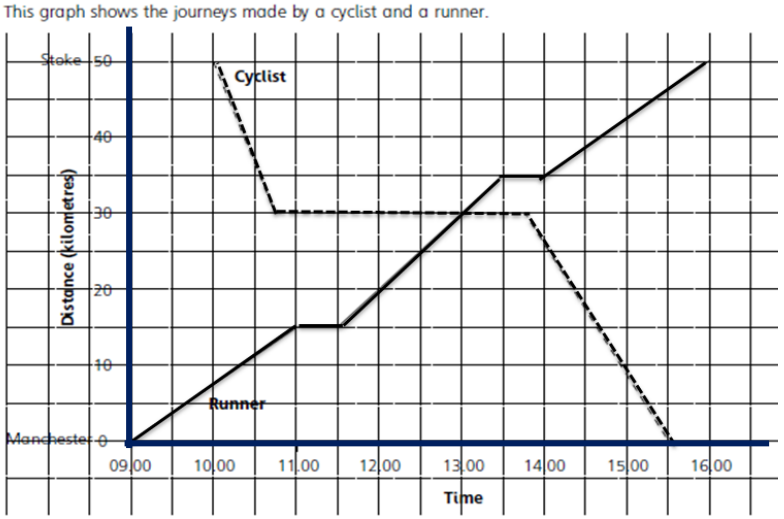
Where else might you use the word conversion?

Problem Solving

Tom wants to buy a camera. In London the camera costs £380. In Abu Dhabi the camera costs 2000 Dirhams. In which city is the camera cheaper and by how much? Give your answer in pounds.



Fluency



1.a) What time did the runner and cyclist meet?

b) How far were they from Stoke?

2. How many times did the runner stop?

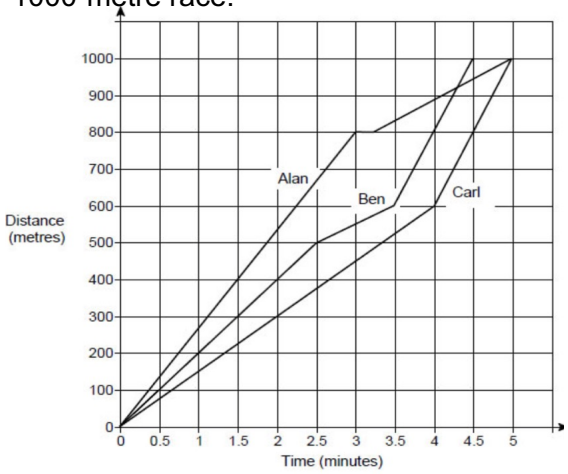
3. a) Between which times did the runner travel fastest?
b) How did you decide?

4. Where did the cyclist finish his journey?

5. What was the speed of the runner at 10:00?

Reasoning

Here is a distance-time graph showing a 1000-metre race.



Describe what happened in the race.

Delta Unit 8: Graphs

Plotting a linear graph

Using x values from 0 to 5, draw the graph of y = 2x + 3

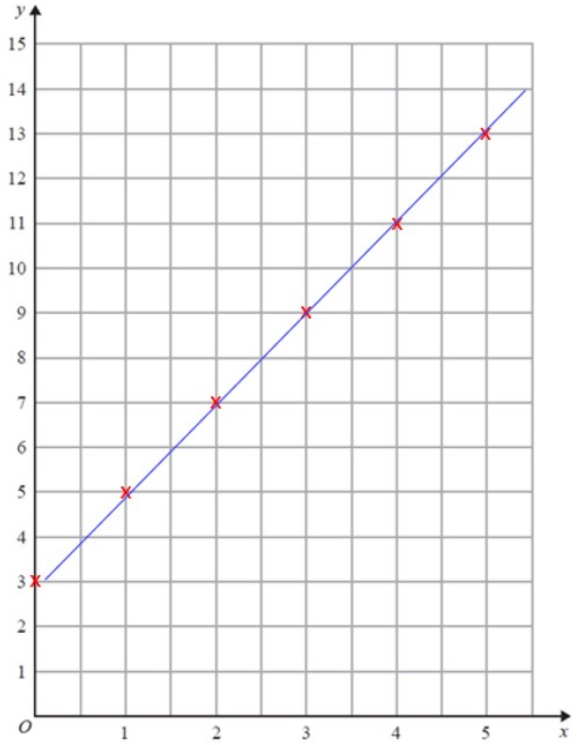
First substitute to find coordinates:

0	1	2	3	4	5
3	5	7	9	11	13

2 x 0 + 3 = 3

2 x 4 + 3 = 11

Then plot coordinates and join with a straight line:



Equation of a straight line

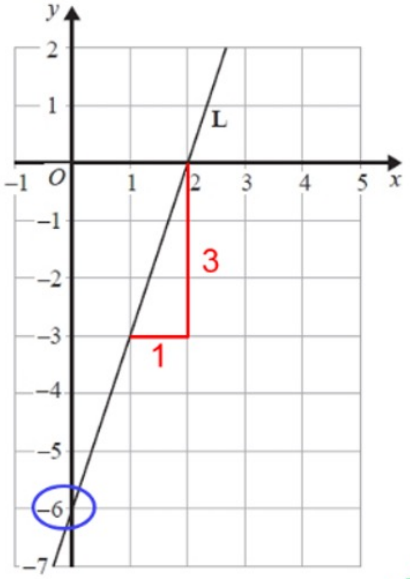
$y = mx + c$

gradient — y intercept

m = 3 ÷ 1 = 3

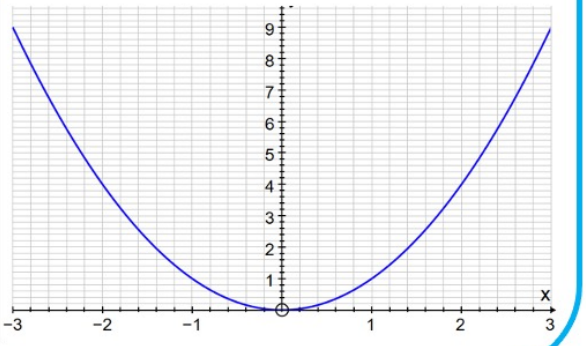
c = -6 (crosses y-axis)

So y = 3x - 6



Quadratic graph

x	$y = x^2$
-3	9
-2	4
-1	1
0	0
1	1
2	4
3	9



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MATHS

Year 8 | Half-term 4: *Graphs*

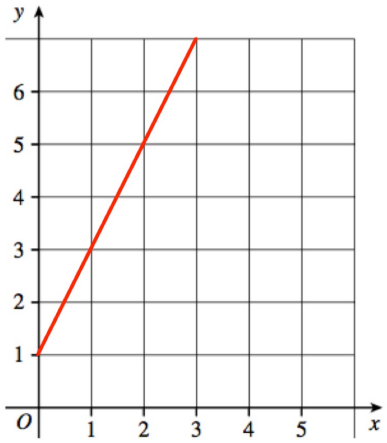
Literacy

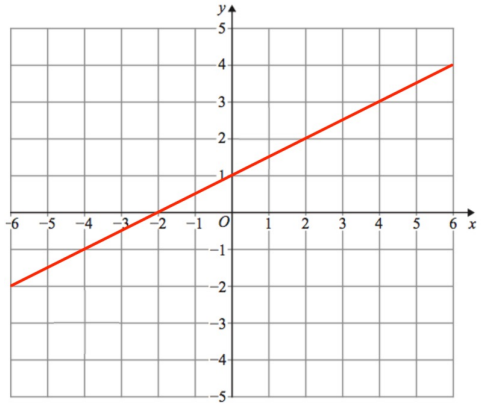
These vowel-less words. What are they?
Can you give their definitions?

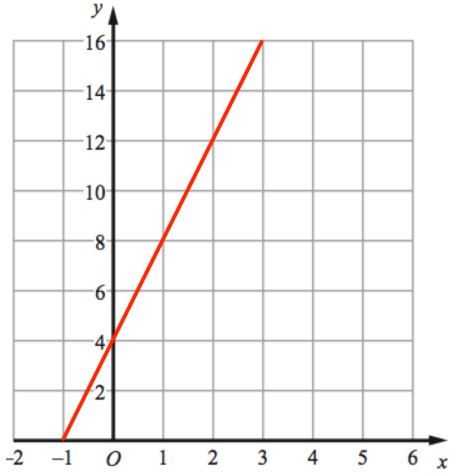
- lpraelral
- nedprepculrai
- qeutaoin

Fluency

1) Find the gradient of these lines.
2) Find the equation of these lines.

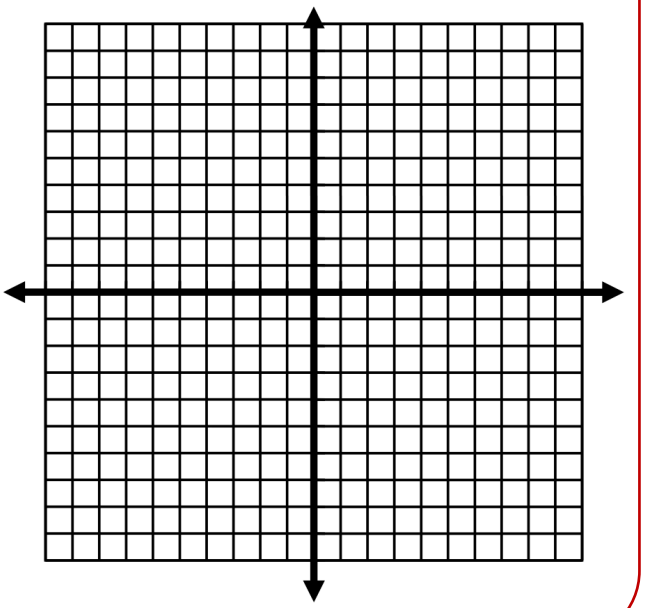






Problem Solving

Plot the graph of $y = x^2 + 2x + 2$
Give the equation of the line of symmetry of this graph.



Reasoning

Are these two lines parallel, perpendicular or neither?
$y = 3x + 12$ and $6y + 9x = 5$

Delta Unit 9: Working with Powers

Expanding and Simplifying

Step 1:
Expand both sets of single brackets separately.

Step 2:
Simplify the expressions.

E.G. $2x(4x+5)-6x(x-2)$

$2x(4x+5)$

	$4x$	$+5$
$2x$	$8x^2$	$+10x$

$-6x(x-2)$

	x	-2
$-6x$	$-6x^2$	$+12x$

$$= 8x^2 + 10x - 6x^2 + 12x = 2x^2 + 22x$$

Rearranging Formulae

Use inverse operations to isolate the subject.

E.G.

$$y = 5x + 3$$
$$-3 \qquad -3$$
$$y - 3 = 5x$$
$$\div 5 \qquad \div 5$$
$$\frac{y-3}{5} = x$$

Solving Equations with powers

Use inverse operations. Remember for $x^2 = 25$ there are two solutions, $x = 5$ or $x = -5$.

E.G.

$$2x^2 + 5 = 23$$
$$-5 \qquad -5$$
$$2x^2 = 18$$
$$\div 2 \qquad \div 2$$
$$x^2 = 9$$
$$\sqrt{\ } \qquad \sqrt{\ }$$
$$x = \pm 3$$

Simplifying expressions (adding/subtracting)

'Collect like terms', remembering x and x^2 are different. Include the sign in front of each term.

E.g.

$4x^2 + 5x - 6x^2 + 7x = -2x^2 + 12x$

$= -2x^2 + 24x$

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MATHS

Year 8 | Half-term 5: *Working with Powers*

Literacy

Unscramble and then give definitions of the following words:

fmuolar

pandex

miplsiyf

Fluency

Make x the subject of the following formulae

1) $y = kx + m$

2) $y = \frac{x}{k} + m$

3) $y = tx + mn$

4) $n = r(x + t)$

5) $7ax + tp = 3ax + r$

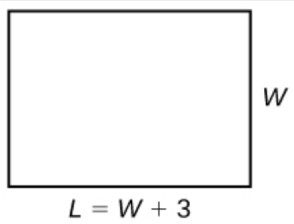
6) $h(x + n) = a$

7) $b(x - d) = q$

8) $3(x - 2y) = 2(x + y)$

Problem Solving

Write a formula for the perimeter of this shape, P.



Given that the perimeter of the shape is 54. What are the values of L and W?

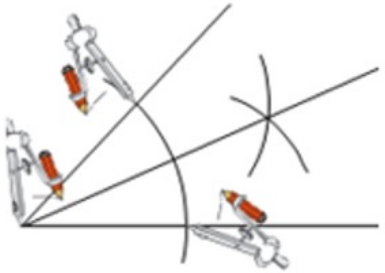
Reasoning

Explain why $4x^2 + 3x + 5x^3$ cannot be simplified.

Delta Unit 10: Construction and Loci

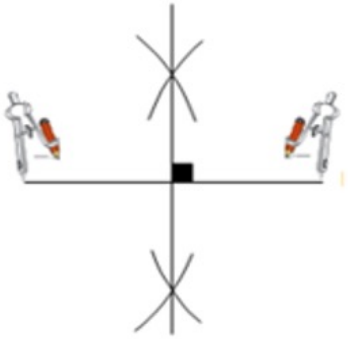
Angle Bisector

1. Place compass at the angle point, and draw arcs crossing both lines of the angle
2. Place the compass on each of the arcs in turn and (with the same distance set) draw 2 arcs in the middle section which intersect
3. Draw a line through the intersecting arcs to the angle point



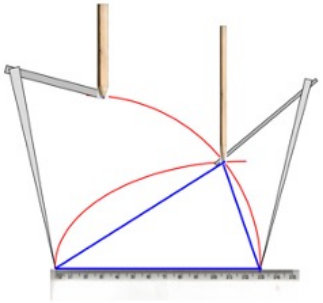
Perpendicular Bisector:

1. Place compass at one end of the line, set over halfway and draw an arc above and below the line
2. Keep the compass set to the same distance and repeat from the other end of the line
3. Join up your arcs to complete the perpendicular bisector



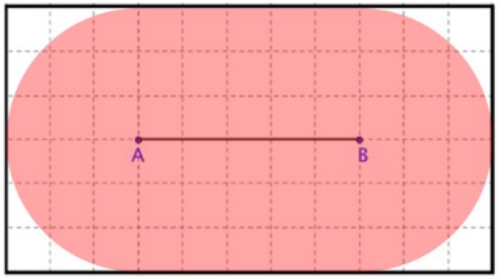
Constructing Triangles

1) Use a ruler to draw the longest side
2) Set your compass to the second side length
3) Put your compass on one end of the line and draw an arc
4) Repeat from other end of line for third side length
5) Join the line to where the arcs cross



Loci

Shade the locus of the points that are less than 3 units from the line AB



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MATHS

Year 8 | Half-term 6: *Construction and Loci*

Literacy

Using suitable drawings to exemplify describe what the following are:

- An Arc
- A Perpendicular Bisector of a line
- An Angle Bisector of any angle
- Loci and Regions

Fluency

Q1.
a) On a clean page, roughly in the middle of the page, draw accurately a SSS triangle with length AB = 7cm AC = 8cm and BC = 5cm.

b) Draw the perpendicular bisectors through two of the edges of the triangle ABC such that they intersect each other at a single point.

c) Construct a circle around the point of intersection found in part b) so that the circumference is on at least one of the vertices of the triangle.

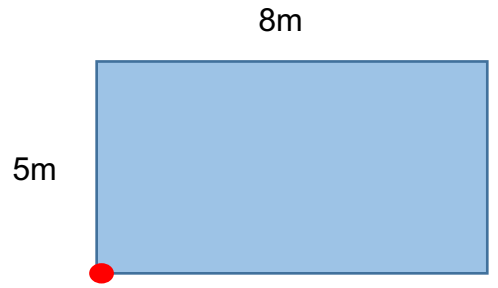
Q2.
a) On another clean page draw a SSS triangle with edge lengths B = 10cm, BC=AC=8cm.

b) Draw the angle bisector through any two interior angles of the triangle ABC such that they cross each other and extend each one to touch the opposite edges of the triangle.

c) Construct a circle around the point of intersection found in part b) The circumference of the circle should meet the triangle where the angle bisector met the triangle..

Problem Solving

On a clean page draw this diagram accurately where 1cm = 1m.



A dog is attached by a lead to the red post. The lead is 10m long.
Draw the locus of points the dog can reach whilst on the lead.

Reasoning

Harry and John are both drawing triangles with the following angles: $75°$ $60°$ and $45°$.
Explain why the triangles they have drawn may not be congruent.

Delta Unit 11: Scale Drawings and Measure

Scales

The scale is usually written as a ratio with no units.

E.g. Map : Real Life

1 : 150 000

1cm : 150 000cm

1cm : 1500m

1cm : 1.5km

Similarity

The scale factor is the multiplier from shape A to shape B.

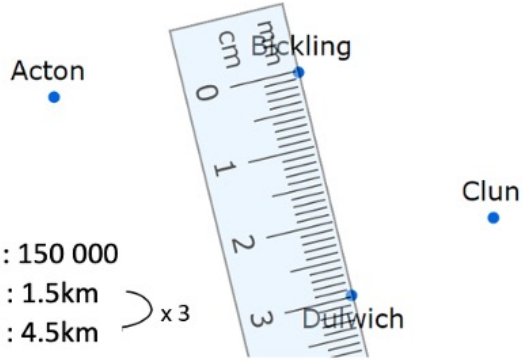
Scale factor = $\frac{big\ length}{small\ length} = \frac{4.4}{2.2}$

x = 3.8 x 2 = 7.6cm y = 3.2 ÷ 2 = 1.6cm

Maps and Scales

'As the crow flies' means a straight line.

E.g. Find the distance 'as the crow flies' between Bickling and Dulwich.



Scale 1 : 150 000

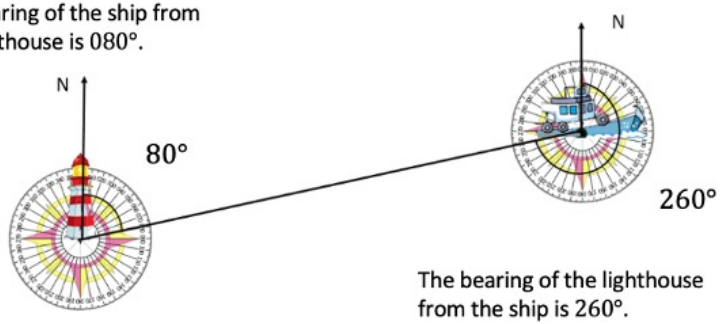
x 3 (1cm : 1.5km
3cm : 4.5km) x 3

Bearings

- From north
- Clockwise
- Three digits e.g. 046°.

E.g.

The bearing of the ship from the lighthouse is 080°.



The bearing of the lighthouse from the ship is 260°.

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MATHS

Year 8 | Half-term 6: *Scale Drawings and Measure*

Literacy

Explain what a bearing is and through an example describe why you cannot have a bearing over 360°.

Fluency

Q1. What bearing is in the opposite direction to a bearing of 225° ?

Q2. The bearing of the port from the harbour is 175°. What would be the bearing of the harbour from the port?

Q3.
a) Draw accurately the following journey of a plane using a scale of 1cm to 50km. The plane sets off from London on a bearing of 285° and passes over Liverpool 290km from London before turning on a bearing of 225° to fly to Dublin 215 km away.

b) Use your drawing from part a) to find the real distance in a straight line from Dublin to London.

c) What is the bearing of London from Dublin according to your scale drawing.

Problem Solving

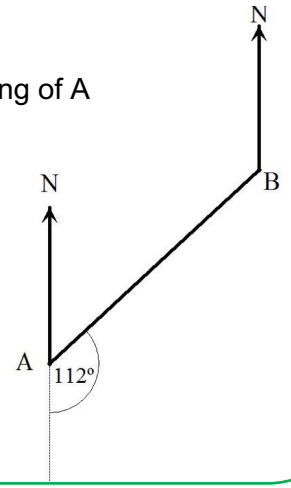
Q1. What bearings represent the following directions?
a) South
b) NE
c) SSW

Q2.
The location C is on a bearing of 140° from A.
The bearing of C from B is 250°.

Find the location C and mark it on the diagram below.

Reasoning

Calculate the bearing of A from B.
Giving reasons.



Delta Unit 12: Analysing and Displaying Data

Averages and Range

5, 5, 8, 9, 11, 15, 17

Mode is the most common.

Mode = 5

Median is the middle when arranged in size order.

Median = 9

Mean is when you find the sum and divide by the amount of values.

Mean = 10

Range is the biggest subtract the smallest.

Range = 12

Comparing Distributions

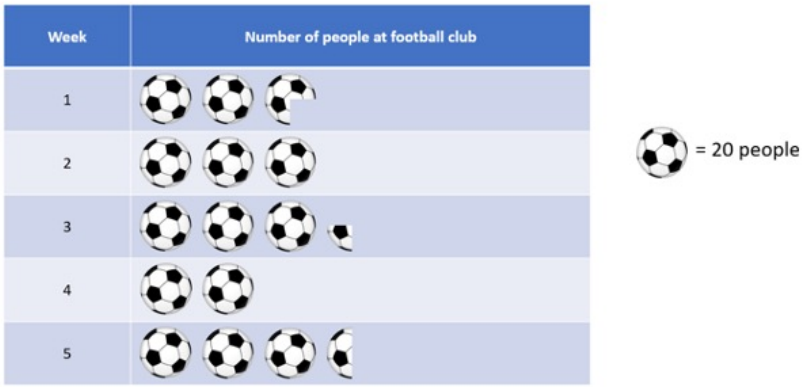
Use these sentence starters:

- The mean/median for _____ is higher showing that on average they score more.
- The range for _____ is bigger showing that the data is more spread and so less consistent.

Pictograms

Example, put the following information into a pictogram.

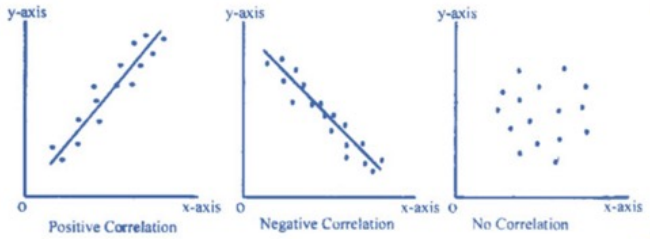
Week	No of people at a football club
1	55
2	60
3	65
4	40
5	70



Note: 1 football is 20 people, so half a ball is 10 people!

Scatter Graphs

- Make sure scale is easy to read.
- Plot points.
- Draw a straight line of best fit. Avoid anomalies.
- Describe correlation: Positive/Negative/None



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MATHS

Year 8 | Half-term 6: *Analysing and Displaying Data*

Literacy

The following maths words are missing their vowels, can you fill in the vowels to find the words and give an example.

- br chrt
- pctgrm
- vrgs

Fluency

Type of drink	Water	Soda	Juice	Milk
Number of votes	9	15	7	4

Complete the pictogram

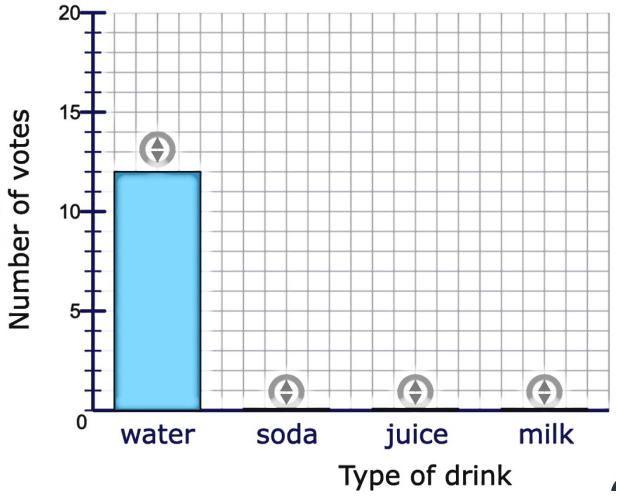
Key: = 2 votes

Survey of preferred drinks

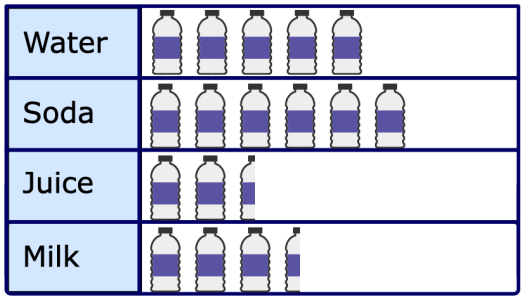
Water	
Soda	
Juice	
Milk	

Type of drink	Water	Soda	Juice	Milk
Number of votes	12	13	9	1

Complete the bar chart



Problem Solving

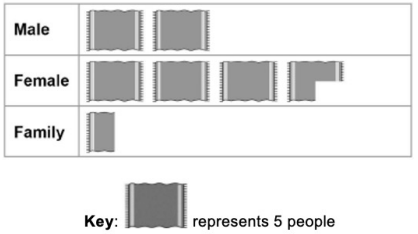


From the survey 9 people preferred water.

a) How many people were in the survey?

b) How many more people preferred soda to milk?

Reasoning



Why might it not be useful to have a key representing 5 people?