2022 Feb Year 11 Foundation Revision Paper 2 - due

Question 1 - (3 marks available)

Work out

a) $\frac{4}{5}$ of 30

b) $\frac{2}{9} \times 45$

c) $24 \times \frac{1}{6}$

Question 2 - (2 marks available)

a) Find the square number

7 12 20 25 27

b) Find the cube number

7 12 20 25 27

Question 3 - (1 marks available)

Select the cube number.

10	100	1000	10000
A	B	C	D

Question 4 - (3 marks available)

Complete the table.

Fraction	Percentage	Decimal
$\frac{1}{5}$		
	25%	
$\frac{1}{2}$		
	$66.\dot{6}\%$	$0.\dot{6}$

Note: Please use the "/" key of your keyboard to enter the fraction (i.e. $\frac{1}{2}$ would be entered 1/2).

Question 5 - (4 marks available)

a) Change 125 mm into centimetres.

b) Change 84 cm into millimetres.

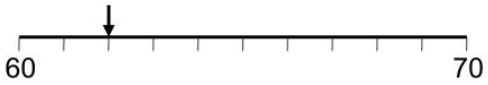
c) Change 890 cm into metres.

d) Change 4.8 m into centimetres.

Question 6 - (3 marks available)

What numbers are the arrows pointing to?

a)



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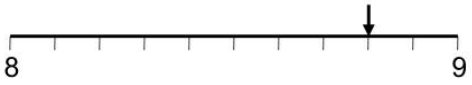

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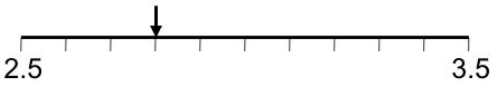


Question 7 - (2 marks available)

Use your calculator to work out the following and write all the figures from your display.

a) $\sqrt{17.5}$

b) $2.3^2 + \sqrt{5.6}$

Question 8 - (4 marks available)

Calculate.

a) $\sqrt{\dfrac{4.5^2 + 10.8^2}{4}}$

b) $\dfrac{1}{(2 \times 10^5) + (5 \times 10^4)}$

Question 9 - (3 marks available)

Use your calculator to work out

$$\frac{16^2 - 17}{\sqrt{2.3 + 5.87}}$$

Write down your full calculator display.

Question 10 - (2 marks available)

a) Estimate the value of 98.5 × 13

b) Estimate the value of 102.3 ÷ 4.7

Question 11 - (4 marks available)

By rounding each number to 1 significant figure, estimate the answers to:

a) $\frac{763 \times 42}{82}$

b) $\frac{39 \times 52}{3.8 \times 4.9}$

Question 12 - (2 marks available)

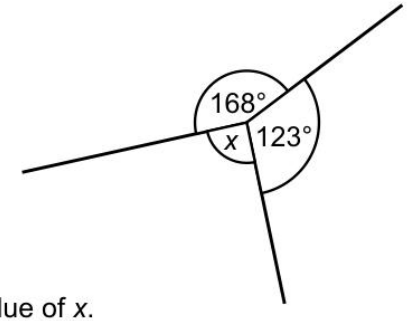
Complete the bank statement.

Date	Description	Credit (£)	Debit (£)	Balance (£)
25/10/2017	Starting balance			406.54
26/10/2017	Car loan		223.65	
27/10/2017	Salary	1325.31		

Question 13 - (2 marks available)

The diagram shows three angles at a point.

Not drawn accurately

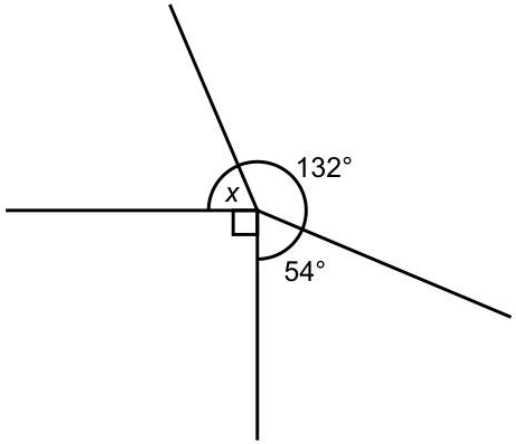


Work out the value of *x*.

Question 14 - (1 marks available)

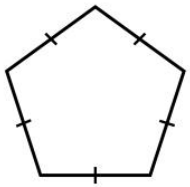
Work out the size of angle *x*.

Not drawn accurately

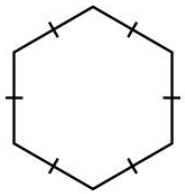


Question 15 - (2 marks available)

a) How many lines of symmetry does this regular pentagon have?



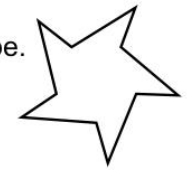
b) What is the order of rotational symmetry of this regular hexagon?



Question 16 - (3 marks available)

a) Write down the number of lines of symmetry of this hexagon.

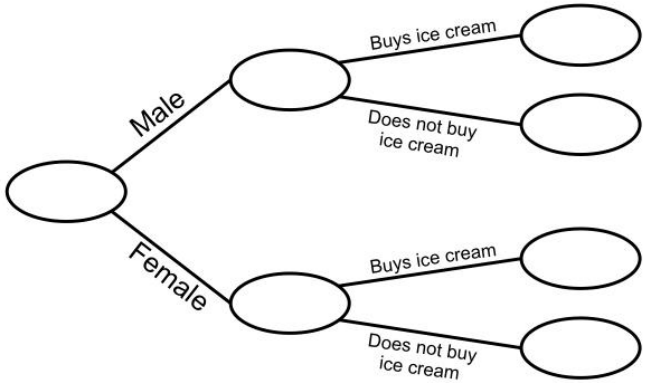
b) Write down the order of rotation symmetry of this shape.



c) A triangle has just one line of symmetry.
Write down the mathematical name of this type of triangle.

Question 17 - (3 marks available)

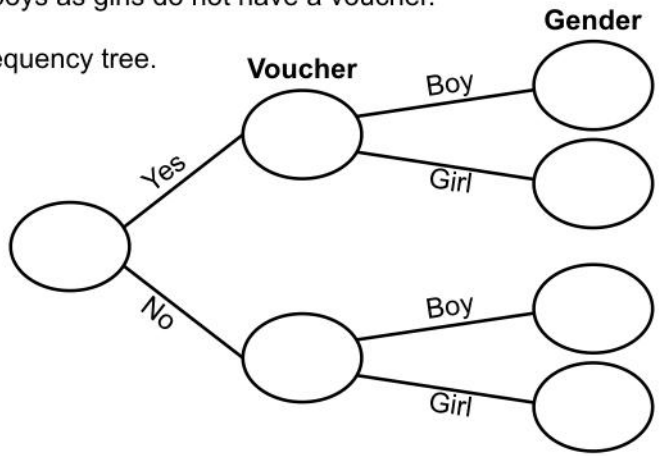
There are 120 people in a theatre.
72 are female, of these 41 purchase an ice cream.
36 males purchase an ice cream.
Use this information to complete the frequency tree.



Question 18 - (4 marks available)

38 boys and 22 girls visit a zoo.
33 of these children have a voucher.
Twice as many boys as girls do not have a voucher.

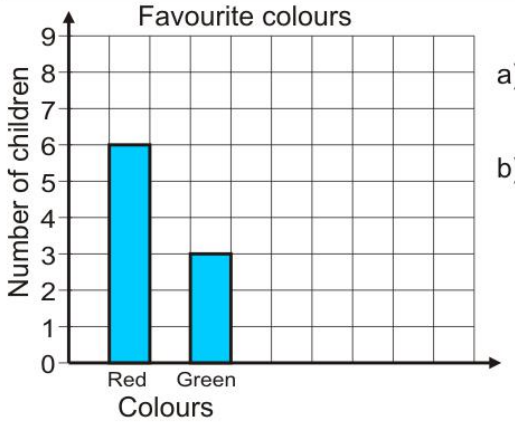
Complete the frequency tree.



Question 19 - (4 marks available)

The table shows the favourite colours of 24 children.

Colour	Red	Green	Blue	Pink
Number of children	6	3	7	8



a) Draw and label the bar for ‘blue’.

b) Draw and label the bar for ‘pink’.

Question 20 - (3 marks available)

The scale on a map is 1 : 320 000

What is the actual distance represented by 1 centimetre?

Give your answer in kilometres.

Question 21 - (3 marks available)

a) The scale on a map is 1 : 30 000
What is the actual distance represented by 1 centimetre?
Give your answer in metres.

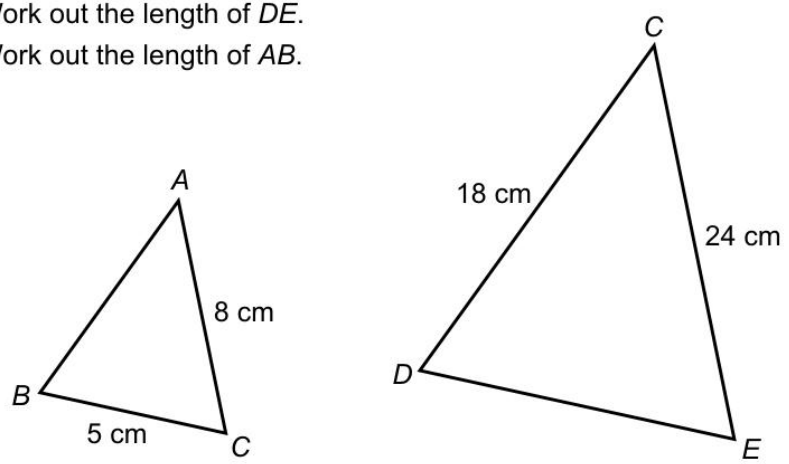
b) The scale on a different map is 1 inch represents 6 miles.
A road on the map measures 2.5 inches.
How long is the road in real-life?

Question 22 - (2 marks available)

Triangles *ABC* and *CDE* are mathematically similar.

a) Work out the length of *DE*.

b) Work out the length of *AB*.



Question 23 - (2 marks available)

Sam and Bethan share £54 in the ratio 5 : 4

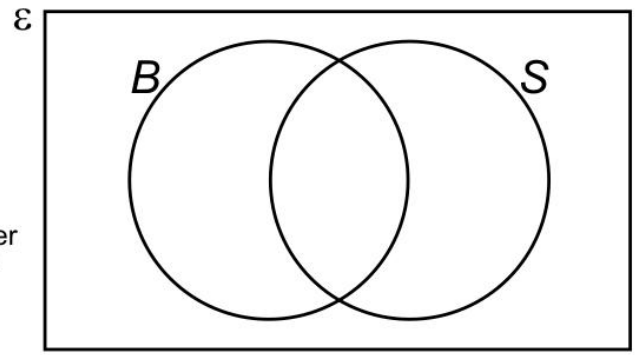
Work out how much each person gets.

Question 24 - (3 marks available)

There are 12 pupils in a class.
They are each asked whether they have a brother or a sister.

9 say they have a brother.
7 say they have a sister.
2 say they have neither.

Fill in the Venn diagram.



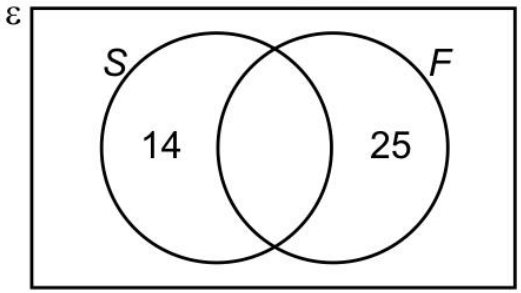
ε = class of 12 pupils
B = pupils who have a brother
S = pupils who have a sister

Question 25 - (3 marks available)

A group of 80 students in a college are surveyed.
They are asked which of Spanish or French they are studying.

71 of the students surveyed studies at least one of the two languages.

a) Complete the Venn diagram.



b) How many students study **only** French?

c) How many students study Spanish?

Question 26 - (3 marks available)

There are only red, blue and green counters in a bag.
There are 6 red counters.
There are 4 blue counters.
There are 8 green counters.

Matt takes a counter at random from the bag.

a) What is the probability that the counter is red?
Give your answer as a fraction.

b) What is the probability that the counter is **not** blue?
Give your answer as a fraction.

Question 27 - (1 marks available)

A bag contains 20 counters.

16 of the counters are green.

A counter is picked at random.

What is the probability that it is green?

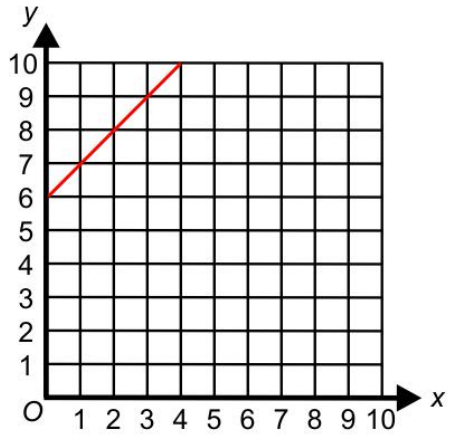
Give your answer as a fraction.

Question 28 - (3 marks available)

Work out the equation of the line which has a gradient of 2 and passes through the point (1, 4).

Question 29 - (2 marks available)

Find the equation of the line shown.



Question 30 - (4 marks available)

This graph can be used to convert between centimetres and inches.

a) Convert 30 inches to centimetres.

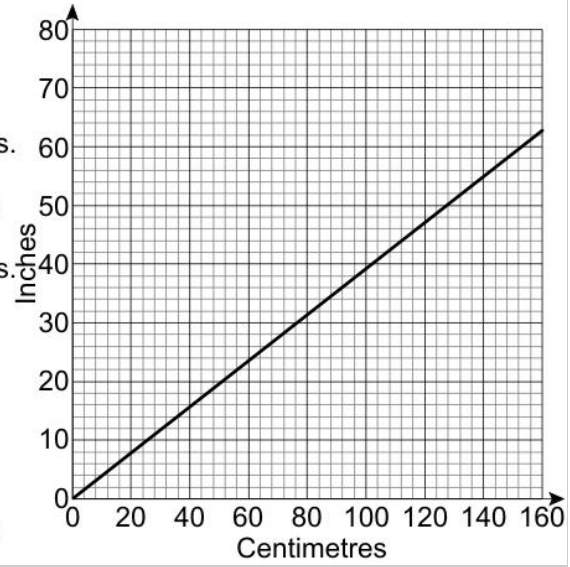
centimetres

b) Convert 40 centimetres to inches.

inches

A fence is 7 feet 6 inches high.
1 foot = 12 inches
c) What is the height of the fence in centimetres?

centimetres



Question 31 - (4 marks available)

The graph shown can be used to convert between kilometres and miles.

a) Convert 42 miles to kilometres.

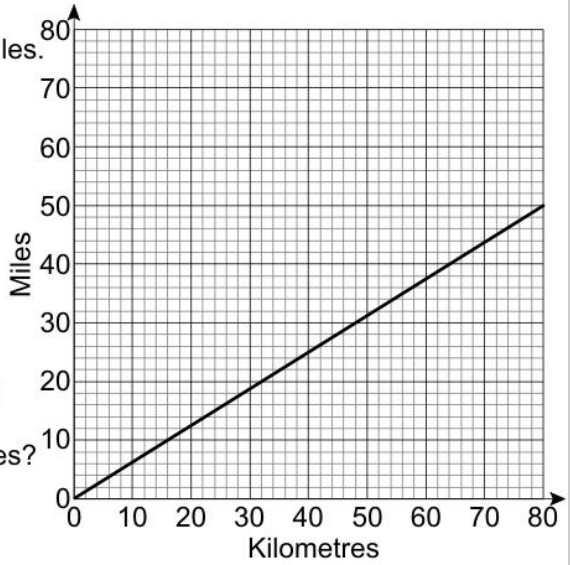
kilometres

b) Convert 35 kilometres to miles.

miles

The distance between London and Cardiff is 150 miles.
c) What is this distance in kilometres?

kilometres

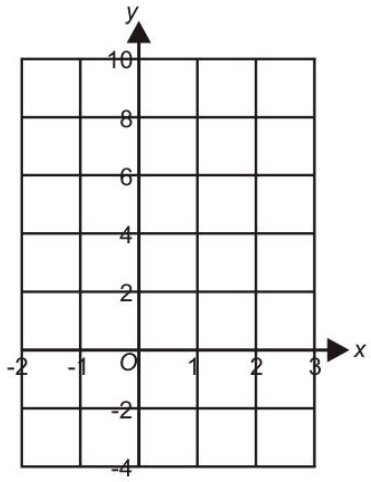


Question 32 - (3 marks available)

a) Complete the table of values for $y = 2x + 3$

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

b) Draw the graph of $y = 2x + 3$ on the grid.



Question 33 - (2 marks available)

Doughnuts are sold in bags and cartons.
A bag holds 4 doughnuts and a carton holds 10 doughnuts.

Tom buys B bags of doughnuts and C cartons of doughnuts.

He buys a total of T doughnuts.

Write down a formula for T in terms of B and C.

Question 34 - (3 marks available)

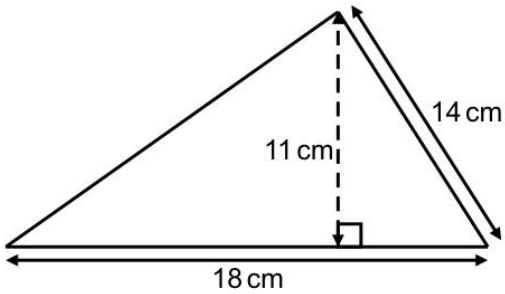
Tim has some marbles.
Sue has twice as many marbles as Tim.
Jim has 15 marbles.

Tim, Sue and Jim have a total of 63 marbles.

How many marbles does Tim have?

Question 35 - (2 marks available)

Calculate the area of this triangle.



Question 36 - (2 marks available)

The work in an office takes 150 hours to complete every week.

Each person in the office works for 32 hours a week.

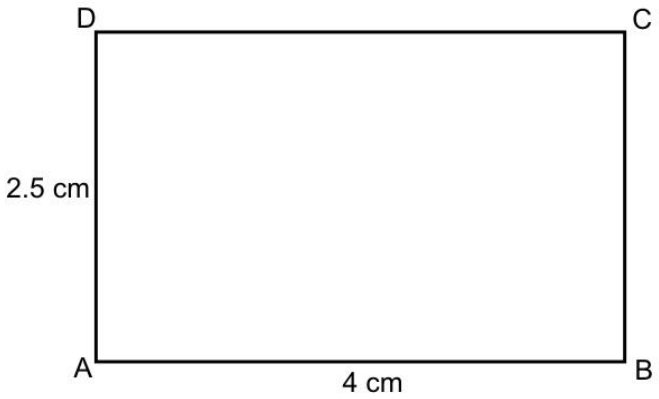
a) What is the smallest number of people needed to complete the work?

b) The number of hours each person works is decreased to 30 hours a week.
Does the office still need the same number of people?
Answer 'yes' or 'no'.

Question 37 - (3 marks available)

Here is a scale drawing of a garden.
Kim wants to plant a tree in the garden according to the following rules:
It must be 7 m from A and 4 m from C.
Place a cross where Kim can plant the tree.

1 cm represents 2 m



Question 38 - (2 marks available)

Bertie Beetle walks so that he is always exactly 1.3 cm from Crumb A.
Adam Ant walks so that he is always exactly 3.5 cm from Crumb B.
There are only two points at which they can meet - mark the points with crosses.

Question 39 - (2 marks available)

Colin walked a distance of 15 miles in 6 hours.
Work out Colin's average speed.
Give your answer in miles per hour.

Question 40 - (4 marks available)

The driving distance between Manchester and London is 195 miles.
Faris intends to travel from Manchester to London by coach.
The coach will leave Manchester at 3.30 pm

Faris assumes that the coach will travel at an average speed of 50 mph

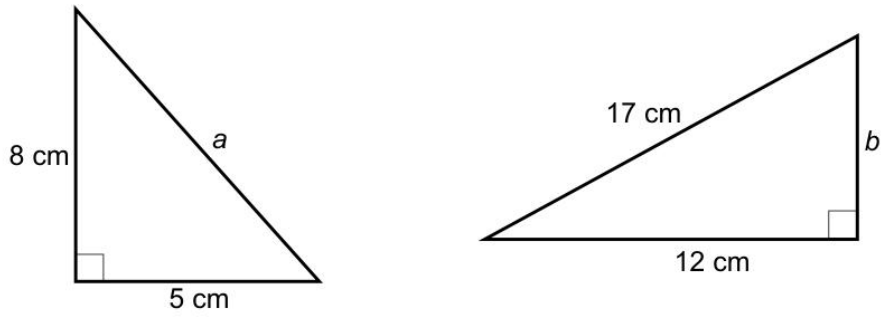
a) Using his assumption, work out Faris's arrival time in London.

It actually turns out that the coach has a lower average speed.

b) Describe how this affects the arrival time.

Question 41 - (6 marks available)

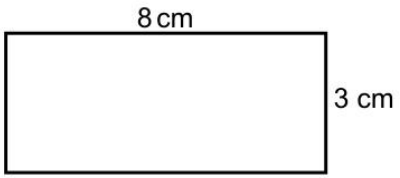
Work out the lengths of sides *a* and *b*.
Give your answers to 1 decimal place.



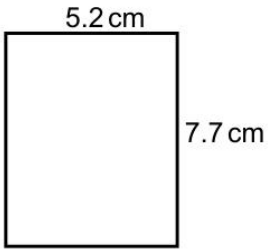
Question 42 - (2 marks available)

Calculate the areas of these rectangles.

a)



b)



Question 43 - (1 marks available)

Which **one** of the following is discrete data?

Select your answer.

Height of a tree A	Time taken to change a bulb B
Number of people in a room C	Weight of a baby D

Question 44 - (2 marks available)

Complete the following sentences.

Data that can only take particular values is called _____ data.

Data that can take on any value is called _____ data.

Question 45 - (1 marks available)

The table gives some information about the heights of 30 plants.

Height, h in cm	Frequency
$0 \leqslant h < 10$	1
$10 \leqslant h < 20$	9
$20 \leqslant h < 30$	7
$30 \leqslant h < 40$	13

Which class interval contains the median?
Select your answer.

$0 \leq h < 10$	$10 \leq h < 20$	$20 \leq h < 30$	$30 \leq h < 40$
A	B	C	D

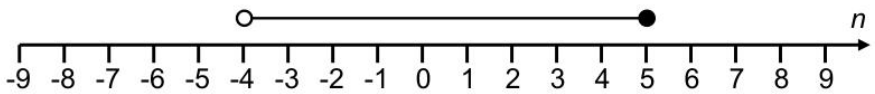
Question 46 - (2 marks available)

Ben scores 56 out of 79 marks in a Maths test.

What is his score as a percentage to 1 decimal place?

Question 47 - (2 marks available)

What is the inequality shown?



Question 48 - (1 marks available)

y is greater than or equal to 3 **and** less than 7

Select the inequality that represents this.

$3 \leq y < 7$	$3 \geq y > 7$	$3 \leq y \leq 7$	$3 < y \leq 7$
A	B	C	D

Question 49 - (2 marks available)

n is an integer.

Write the values of n such that $-15 < 3n \leqslant 6$

Question 50 - (2 marks available)

There are between 24 and 40 students in a class.

The ratio of boys to girls is 4 : 7

How many students are in the class?

Question 51 - (1 marks available)

Which of the following is the reciprocal of 5?

A	B	C	D
0.5	5	$\frac{1}{5}$	50

Question 52 - (3 marks available)

Write the reciprocal of

a) 6

b) 13

c) $\frac{1}{2}$

Question 53 - (3 marks available)

Given that $\frac{a}{b} = \frac{3}{5}$ and $\frac{b}{c} = \frac{4}{5}$

find $a : b : c$ giving your answer in its simplest form.

Optional working

Answer: $a : b : c =$

Question 54 - (1 marks available)

$x : y = 1 : 5$

Which is the correct equation?

A $y = 5x$ B $y = \frac{x}{5}$ C $y = x - 4$ D $y = x + 4$

Question 55 - (2 marks available)

Write down in terms of n, an expression for the nth term of the following sequences:

a) 2 5 8 11 14

b) 9 11 13 15 17