TGMT

PRACTICE BOOKLET FOR GCSE MATHS

A PRACTICE BOOKLET TO HELP YOU PASS YOUR GCSE MATHS EXAM

FOUNDATION TIER

GCSE Mathematics

Practice Booklet Set 2

Paper 2 (Calculator)

Foundation Tier

GCSE Maths Tutor

How it all Works!

Work through the practice booklet, scan the code, watch the live tutorial and check your answers!

Try it out!

Answer ALL questions.
Write your answers in the spaces provided.
You must write down all the stages of your working.

1. a) Work out $4 + 7 \times 5$

.....
(1 mark)

b) Write brackets () in this statement to make it correct

$$15 + 10 \div 5 = 5$$

(1 mark)

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2. a) Work out $\frac{2}{3}$ of 48

.....
(1 mark)

b) Work out $3\frac{4}{5} + \frac{3}{7}$ and give your answer as a mixed number in its simplest form.

.....
(3 marks)

---

3. a) Write $\frac{1}{4}$ as a percentage

.....
(1 mark)

b) Write $\frac{3}{5}$ as a decimal

.....
(1 mark)

4. Write these number in order of size.

Start with the smallest number.

0.354 0.4 0.35 0.345

……

(2 marks)

5. Here is a list of numbers.

1 2 5 6 12 24 27

From the list, write down

a) a prime number

……

(1 mark)

b) a cube number

……

(1 mark)

6. a) Round 3.045 to 2 decimal places

……

(1 mark)

b) Round 0.8596 to 3 decimal places

……

(1 mark)

7. Here are three symbols

<	>	=

Write one of these symbols in each box to make four true statements

13	☐	25
4 + 9	☐	102 - 89
4^2	☐	4 x 2
-5	☐	-3

(3 marks)

8. On Monday Alex earned £120

She worked for 8 hours

a) Work out Alex's hourly rate of pay.

.....

(1 mark)

The following week on Thursday, Alex earned £120

On Friday she earned £100

Alex earned the same amount of money on Monday, Tuesday and Wednesday.

She earned a total of £550 for these five days.

b) How much did Alex earn on Monday?

.....

(3 marks)

9. James has 420 chocolates. He only has caramel, orange, coconut and strawberry flavoured chocolates.

$\frac{2}{7}$ of the chocolates are caramel

35% of the chocolates are orange

The ratio of the number of coconut to the number of strawberry chocolates is 4:5

Work out the number of coconut chocolates James has.

.....

(4 marks)

10. a) Increase 250 by 35%

.....

(2 marks)

b) Decrease 240 by 4%

.....

(2 marks)

11. Write $4.5 : 2.25$ in the form $n : 1$

.....

(1 mark)

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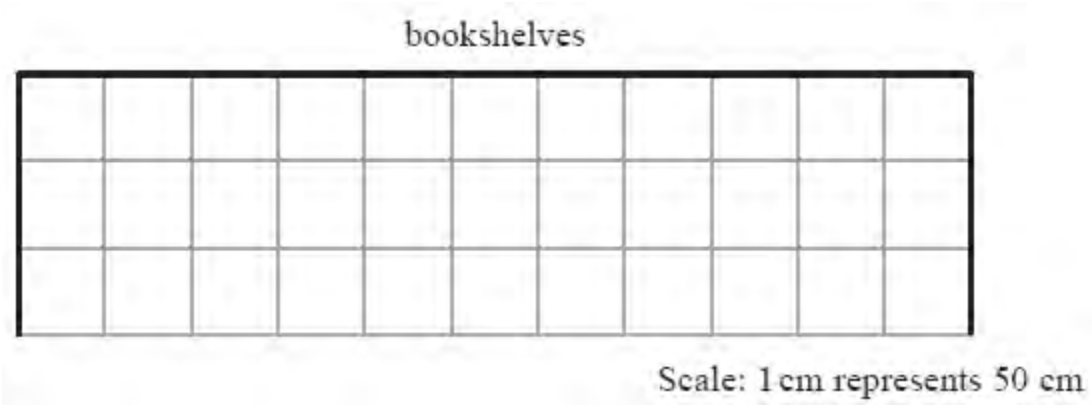
12. The scale diagram shows part of the plan of a classroom.



Mr Ahmed wants to put bookshelves along the complete length of the wall labelled "bookshelves".

There are two sizes of bookshelves.
Large bookshelves are 150 cm wide.
Small bookshelves are 100 cm wide.

(i) Work out how many large bookshelves and how many small bookshelves Mr Ahmed can put along the complete length of the wall.

..... large

..... small

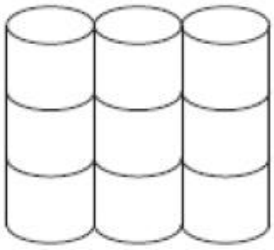
Both the large bookshelves and the small bookshelves are 50 cm from front to back.

(ii) Draw these bookshelves on the scale drawing to show how they will fit.

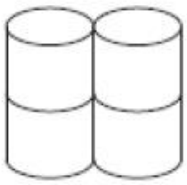
.....

(4 marks)

13.



Pack of 9 toilet rolls £4.23



Pack of 4 toilet rolls £1.96

A pack of 9 toilet rolls costs £4.23

A pack of 4 toilet rolls costs £1.96

Which pack gives better value for money?

You must show your working.

.....

(3 marks)

14. There are only red, yellow and orange buttons in a bag.

The number of red, yellow and orange buttons are in the ratio $7:4:9$

Work out what percentage of the buttons in the jar are orange

.....

(2 marks)

15. Carl puts tins into small boxes and into large boxes.

He puts 6 tins into each small box.

He puts 20 tins into each large box.

Carl puts a total of 3000 tins into the boxes so that

The number of tins in small boxes : the number of tins in large boxes = 2 : 3

Carl says that less than 30% of the boxes filled with tins are large boxes.

Is Carl correct?

You must show all your working.

.....

(4 marks)

16. 10 workers take 4 days to complete a job.

a) How long will 8 workers take to complete the same job?

.....

(2 marks)

b) State any assumptions you have made with your working and how this could affect your answer if your assumption was not correct?

.....

.....

(1 mark)

17. 5 boxes of cereal have a total weight of 1750 grams

4 boxes of cereal and 3 sachets of sugar have a total weight of 1490 grams.

Work out the total weight of 3 boxes of cereal and 2 sachets of sugar.

.....

(3 marks)

---

18. a) Solve $2x + 9 = 16$

.....

(1 mark)

b) Solve $2x - 2 = 7x + 8$

.....

(2 marks)

---

19. a) Simplify $15 - 4x - 9 + x$

.....

(1 mark)

b) Expand and Simplify $3(2x - 4) - 2(x + 5)$

.....

(2 marks)

20. Expand and Simplify $(x + 5)(x - 2)$

.....

(2 marks)

21. a) Factorise fully $12x^2 - 10x$

.....

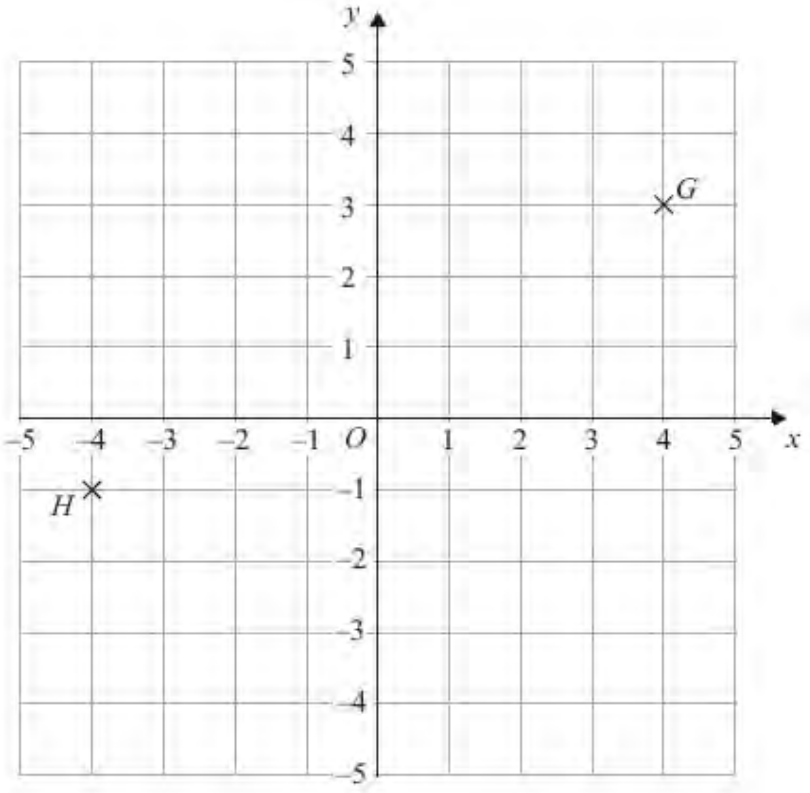
(2 marks)

b) Factorise $x^2 - 8x + 16$

.....

(2 marks)

22.



a) Write down the coordinates of point G

.....

(1 mark)

b) Write down the coordinates of point H

.....

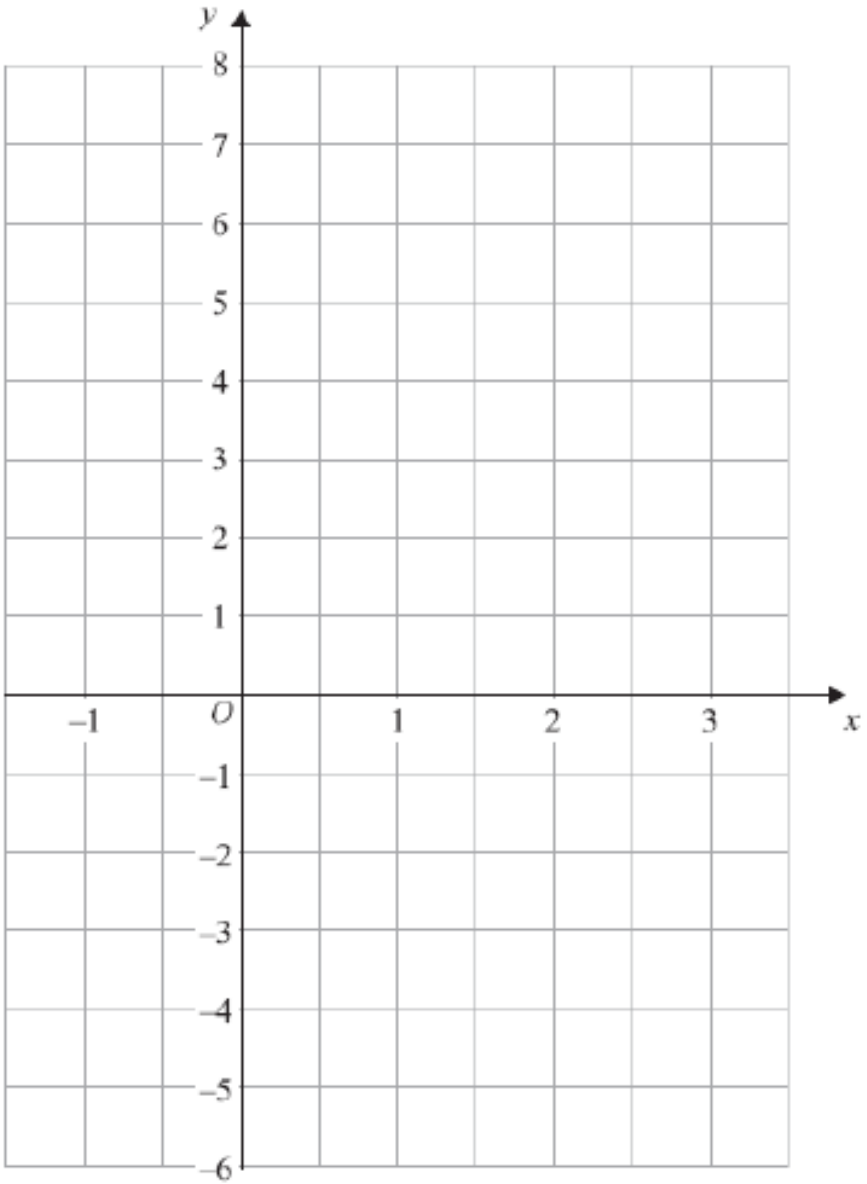
(1 mark)

c) Find the coordinates of the midpoint of GH

.....

(2 marks)

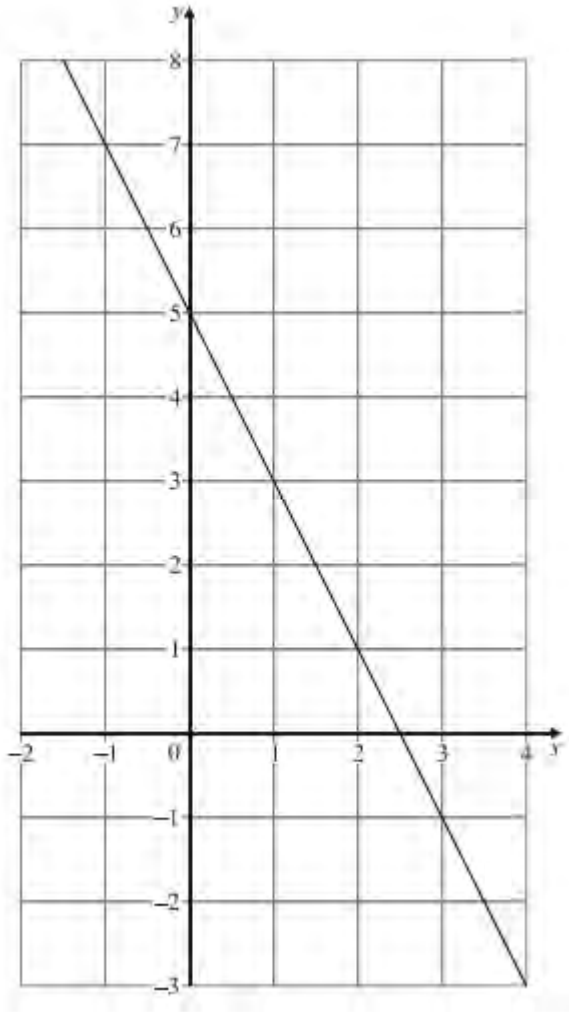
23.



On the grid draw the graph of $y = 3x - 2$ for the values of x from -1 to 3

(3 marks)

24.

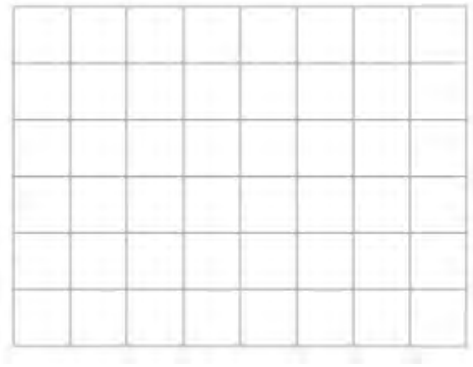


Write down the equation of the line.

.....

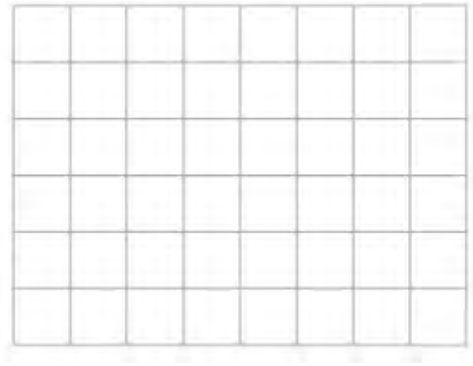
(3 marks)

25. a) On the grid, draw a parallelogram.



(1 mark)

b) On the grid, draw a kite.



(1 mark)

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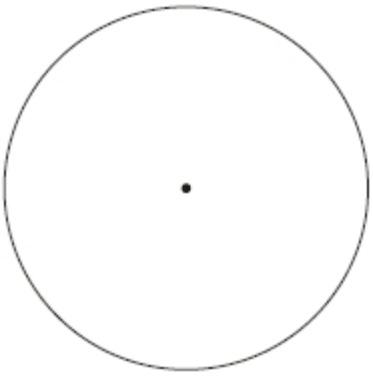
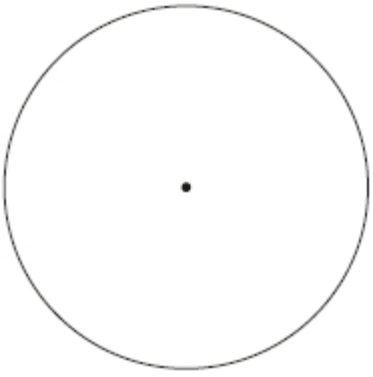
26. a) On the diagram below, draw and shade a sector of the circle.



(1 mark)

b) On the diagram below, draw and shade a segment of the circle.



(1 mark)

27.

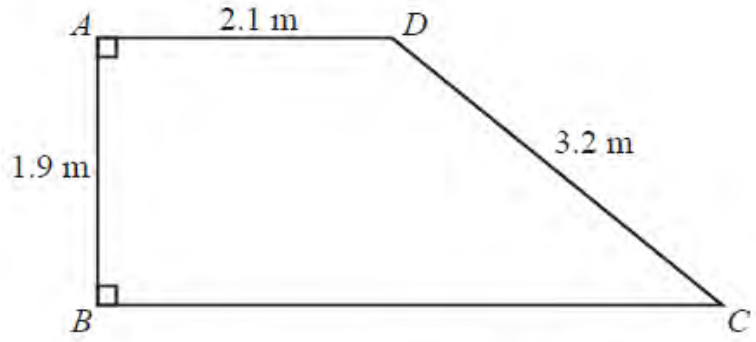


Diagram **NOT** accurately drawn

ABCD is a trapezium.
AD is parallel to BC.
Angle A = angle B = 90. AD = 2.1 m, AB = 1.9 m, CD = 3.2 m.

Work out the length of BC.

Give your answer correct to 3 significant figures.

.....

(3 marks)

28. ABCD is a trapezium

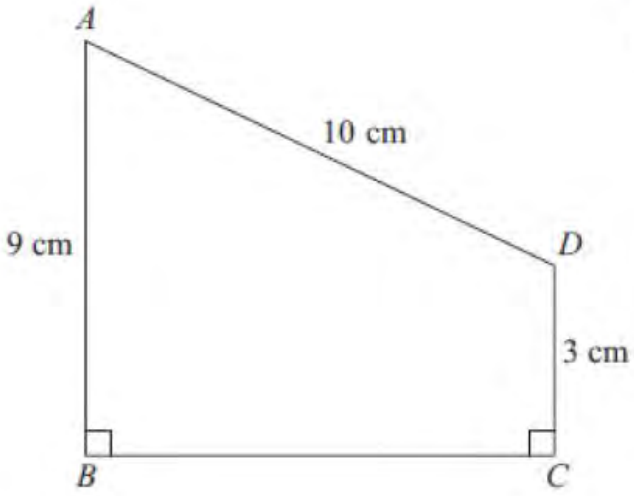


Diagram **NOT** accurately drawn

AD = 10 cm
AB = 9 cm
DC = 3 cm
Angle *ABC* = angle *BCD* = 90°
Calculate the length of *AC*.
Give your answer correct to 3 significant figures.

.....

(4 marks)

29. Dave is a cleaner.

The table shows information about the time it will take him to clean each of four rooms in a house.

Room	Time
Kitchen	2 hours
Sitting room	1 hour 40 minutes
Bedroom	$1\frac{1}{2}$ hours
Bathroom	45 minutes

Dave wants to clean all four rooms in one day.

He will have breaks for a total time of 75 minutes.

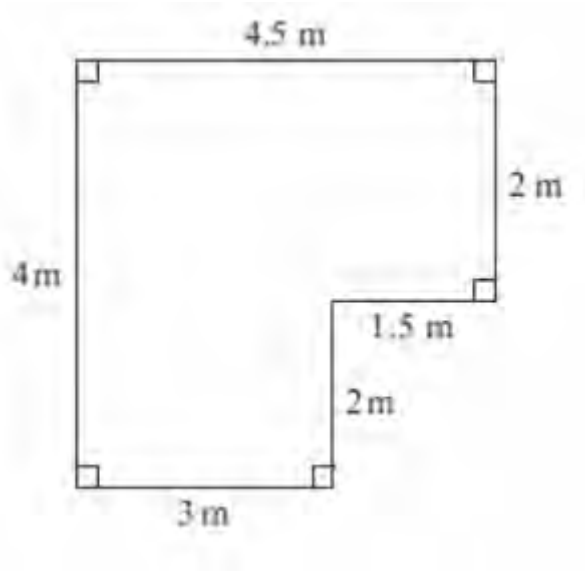
Dave is going to start cleaning at 9am.

Will he finish cleaning by 4pm?

You must show all your working.

(3 marks)

30. The diagram shows a floorplan of Ben's living room.



Ben is going to cover the floor with wooden floorboards.

One pack of floorboards will cover $2.25m^2$

How many packs of floorboards does Ben need?

.....

(4 marks)

31. The diagram shows Jane's garden.

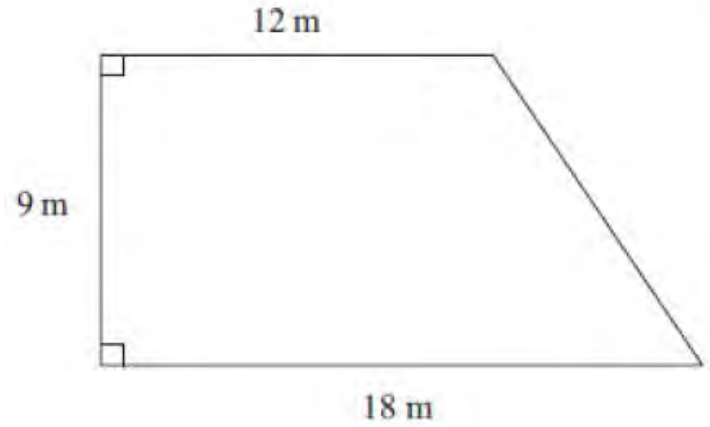


Diagram **NOT** accurately drawn

Jane wants to cover his garden with grass seed to make a lawn.

Grass seed is sold in bags.

There is enough grass seed in each bag to cover $20m^2$ of garden.

Each bag of grass seed costs £4.99

Work out the least cost of putting grass seed on Jane's garden.

.....

(4 marks)

32. In a bag there are only red, blue and white counters.

A random counter is taken from the bag and the table shows the probability of each colour.

Colour	Red	Blue	White
Probability	0.5	0.3	

James is going to take a counter, replace it and take another.

He does this 50 times.

Estimate how many times he will take a white counter.

.....

(3 marks)

33. James has a bag of counter. In the bag there are 4 red counters and 5 blue counters.

James takes at random a counter from the bag and notes its colour.

He then puts the counter back in the bag and takes at random a second counter.

Work out the probability that James takes two different coloured counters.

.....

(4 marks)

34. Mary has two bags of counters.

In bag A there are 3 red counters and 2 blue counters.

In bag B there are 4 red counters and 3 blue counters.

Mary takes at random a counter from bag A and notes its colour.

She then takes at random a counter from bag B.

Work out the probability that Mary takes the same coloured counters.

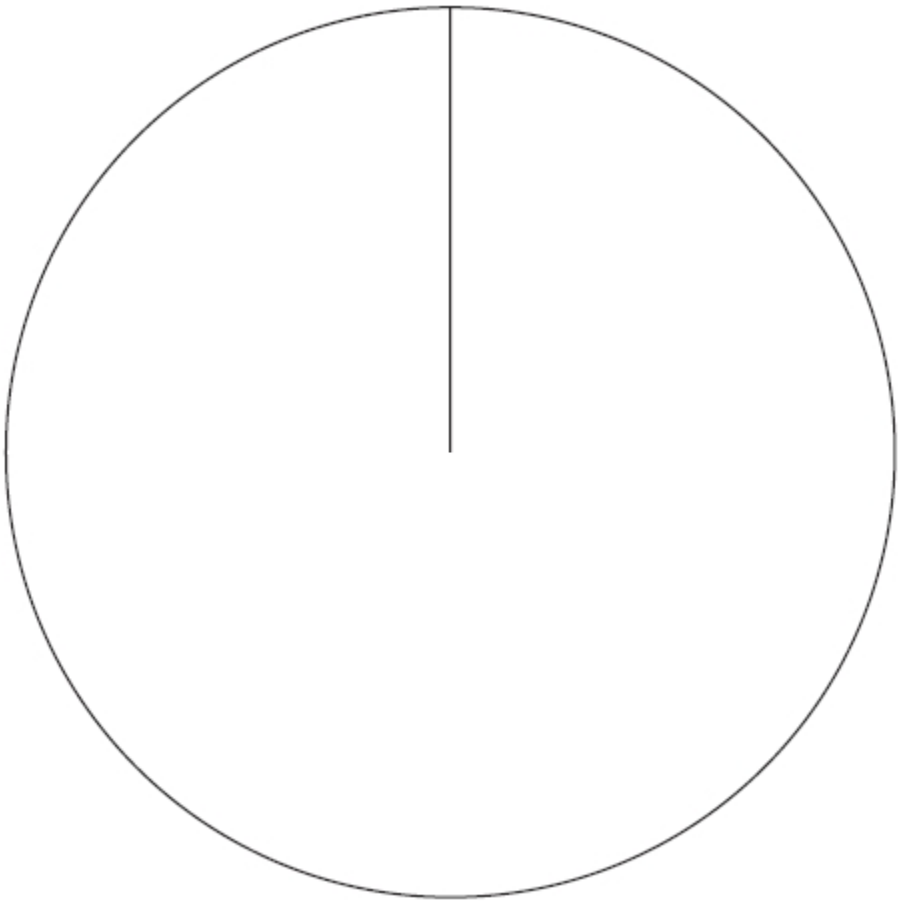
.....

(4 marks)

35. The table gives information about the languages studied by a group of year 11 students.

French	German	Spanish
30	37	53

Draw an accurate pie chart for this information.



(3 marks)

36. Mark has eight cards.

There is a number on each card.

3	1	2	3	6	8	7	2

a) Work out the range of the numbers on the cards.

.....

(1 mark)

b) Work out the mean of the numbers on the cards.

.....

(2 marks)

37. There are 10 boys and 20 girls in a class.

The class has a test.

The mean mark for all the class is 60

The mean mark for the girls is 54

Work out the mean for the boys.

.....

(3 marks)

End of Paper