GCSE Mathematics
Paper 3 (Calculator)
Foundation Tier

Paper Reference: **GFP3.4**

Time: 1 hour 30 minutes
Total Marks: 80

This is a practice paper containing exam-style questions designed to support student preparation. It is not an official past paper or publication from any examination board.

Answer ALL questions.

1. Write the number one thousand eight hundred and forty-six in figures.

.....

(Total for Question 1 is 1 mark)

2. Write $\frac{9}{20}$ as a percentage.

.....%

(Total for Question 2 is 1 mark)

3. Simplify $t + t + t + t + t + t$

.....

(Total for Question 3 is 1 mark)

4. Change 2800 grams into kilograms.

..... kilograms

(Total for Question 4 is 1 mark)

5.

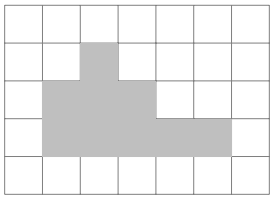
-3 5 -8 1 -1

Write these numbers in order of size. Start with the smallest number.

.....

(Total for Question 5 is 1 mark)

6. The diagram shows a shape on a centimetre grid.



(a) Find the area of the shape.

.....cm²

(1)

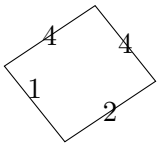
(b) Find the perimeter of the shape.

.....cm

(1)

(Total for Question 6 is 2 marks)

7. Here is a 4-sided spinner.



Lily spins the spinner once.

(a) Choose the word that best describes the probability that the spinner lands on 4

impossible	unlikely	evens	likely	certain

.....

(1)

(b) Choose the word that best describes the probability that the spinner lands on a number greater than 5

impossible	unlikely	evens	likely	certain

.....

(1)

Robert rolls a biased dice once. The probability that he gets the number 6 is 0.25

(c) Work out the probability that Robert does not get the number 6

.....

(1)

(Total for Question 7 is 3 marks)

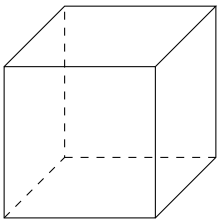
8. A quadrilateral has 4 right angles and opposite sides of equal length.

(a) Write down the mathematical name of this quadrilateral.

.....

(1)

The diagram shows a solid shape.



(b) Write down the mathematical name of this shape.

.....

(1)

(Total for Question 8 is 2 marks)

9. The table shows the number of books read by four people in one month.

Person	Number of books
Alice	4
Ben	8
Charlie	3
Diana	9

(a) Work out the median number of books.

.....

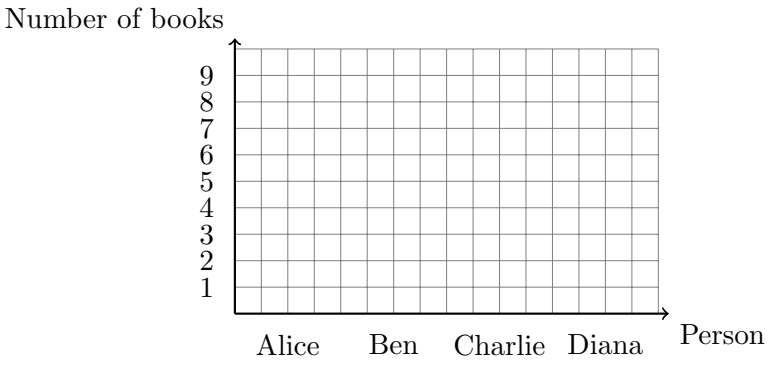
(2)

(b) Find the range.

.....

(1)

(c) On the grid, draw a bar chart to show the information in the table.



(3)

(Total for Question 9 is 6 marks)

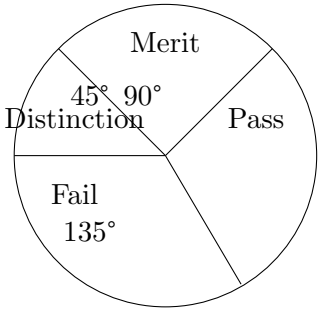
10. Wayne begins walking at 10:45am.
He walks for 2 hours and 15 minutes.
Wayne then rests for 20 minutes.
He then walks for 75 minutes to a café.
Does Wayne get to the café before 2:30pm?
You must show how you get your answer.

(Total for Question 10 is 4 marks)

11. Gabriel thinks of a number.
He multiplies his number by 6 and then adds 9
His answer is 63
What number did Gabriel think of?

.....
(Total for Question 11 is 3 marks)

12. Some students took a piano exam.
The pie chart shows information about the grades the students got.



(a) Write down the modal grade.

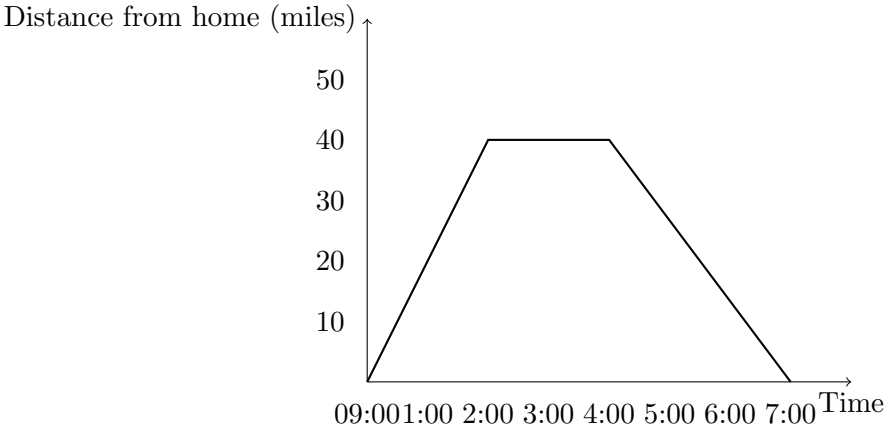
.....

(1)
6 students got merit.
(b) Work out the total number of students who took the piano exam.

.....

(3)
(Total for Question 12 is 4 marks)

13. Rowena drove from her home to a shopping centre.
Here is a travel graph for her journey.



Rowena stopped at a petrol station on her way to the shopping centre.
(a) (i) How many minutes did Rowena take to drive to the petrol station?

..... minutes

(1)
(ii) Write down the distance from Rowena's home to the petrol station.

.....miles

(1)

Rowena stayed at the shopping centre for 1 hour.
She then drove home without stopping.
Rowena arrived home at 16:00

(b) On the grid, complete the travel graph.

(2)

(c) Work out the average speed for the journey from the shopping centre to Rowena's home.

..... miles per hour

(1)

(Total for Question 13 is 5 marks)

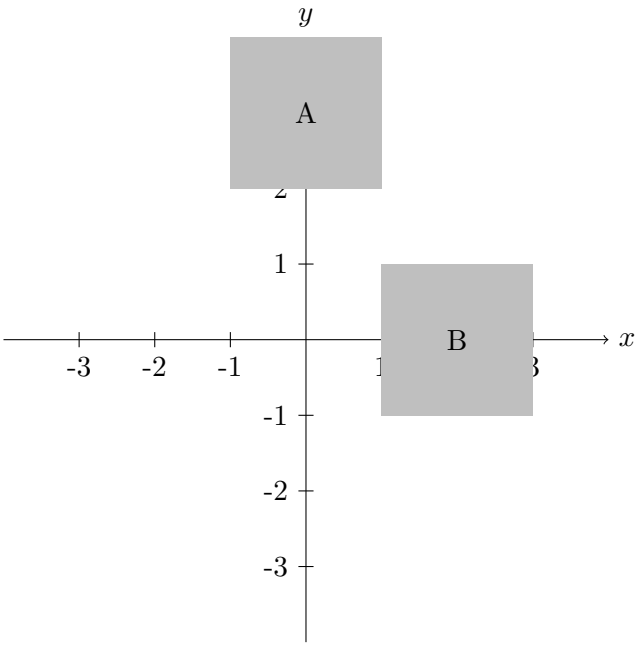
14. 90 pens cost £7
180 pencils cost £9
A pencil is cheaper than a pen.
How much cheaper?
Give your answer in pence correct to 1 decimal place.

..... p
(Total for Question 14 is 4 marks)

15. There are only red beads and yellow beads in a bag.
number of red beads : number of yellow beads = 5 : 3
There are 45 red beads in the bag.
Work out the total number of beads in the bag.

.....
(Total for Question 15 is 2 marks)

16.



Describe fully the single transformation that maps shape A onto shape B.

(Total for Question 16 is 2 marks)

17. The diagram shows the position of town M.

Town N is 60 km from town M on a bearing of 085°
Mark the position of town N with a cross (×).
Use a scale of 1 cm to 15 km.

(Total for Question 17 is 2 marks)

18. Solve $4(2x - 5) = 28$

$x =$ .....
(Total for Question 18 is 3 marks)

19. Jenny invests £3600 for 6 years at $w\%$ simple interest per year.
At the end of the 6 years, Jenny has received a total of £540 in interest.
Work out the value of w.

$w =$ .....
(Total for Question 19 is 3 marks)

20. (a) Simplify $(n^5)^2$

.....

(1)
(b) Simplify $s^8 \times s^3$

.....

(1)
(c) Expand $2t(t^2 + 5t)$

.....

(2)
(Total for Question 20 is 4 marks)

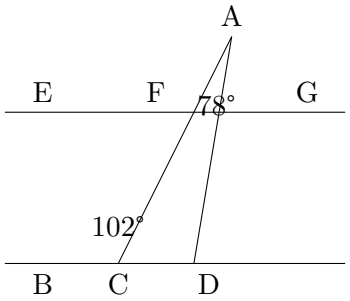
21. Jonny wants to know how much flour he will need for 400 people at a festival.
Each person who eats bread will eat 4 slices of bread.
15.2g of flour is needed for each slice of bread.
Jonny assumes 65% of the people will eat bread.
(a) Using this assumption, work out the amount of flour Jonny needs.
Give your answer correct to the nearest gram.

..... g

(4)
Jonny's assumption is wrong.
70% of the people will eat bread.
(b) How does this affect your answer to part (a)?

(1)
(Total for Question 21 is 5 marks)

22. ACF and ADG are straight lines.
BCD and EFG are parallel lines.



Show that triangle ACD is isosceles.
Give a reason for each stage of your working.

(Total for Question 22 is 5 marks)

23. It takes 18 hours for 4 identical pumps to fill a swimming pool.
How many hours would it take 6 of these pumps to fill another swimming pool of the same size?

.....hours
(Total for Question 23 is 2 marks)

24. E and F are numbers such that

$$E = 2^3 \times 5^2 \times 7 \quad (1)$$
$$F = 2^5 \times 5 \quad (2)$$

(a) Find the highest common factor (HCF) of E and F.

.....

(1)
(b) Find the lowest common multiple (LCM) of E and F.

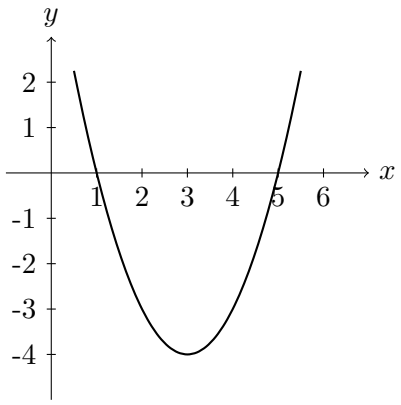
.....

(2)
(Total for Question 24 is 3 marks)

25. Gas flows from a pipeline at a constant rate of 12.4 m^3/s
How many days does it take for 85996800 m^3 of gas to flow from the pipeline?
Give your answer correct to the nearest day.

.....days
(Total for Question 25 is 3 marks)

26. Here is the graph of $y = x^2 - 6x + 5$



(a) Write down the coordinates of the turning point on the graph of $y = x^2 - 6x + 5$

(....., ...)

(1)

(b) Write down an estimate for one of the roots of $x^2 - 6x + 5 = 0$

.....

(1)

(Total for Question 26 is 2 marks)

27. A solid cuboid is made of plastic.
The plastic has a density of 1.8 g/cm^3
The volume of the cuboid is 85 cm^3
Work out the mass of the cuboid.

..... g

(Total for Question 27 is 2 marks)

28. (a) Write $(8 \times 10^4) : (2 \times 10^6)$ in the form $1 : n$ where n is an integer.

.....

(2)

(b) Write the following numbers in order of size.
Start with the smallest number.

$$6.25 \times 10^4 \quad 6250 \quad 625 \times 10^{-1} \quad 0.00625 \times 10^7$$

(2)

TOTAL FOR PAPER IS 80 MARKS

Educational mathematics resources:
stepupmaths.co.uk