
GCSE Mathematics
Paper 3 (Calculator)
Foundation Tier

Paper Reference: **GFP3.2**

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 two thousand four hundred and fifteen in figures.

.....

(Total for Question 1 is 1 mark)

- 2.** Write $\frac{7}{10}$ as a percentage.

.....%

(Total for Question 2 is 1 mark)

- 3.** Simplify $p + p + p + p + p$

.....

(Total for Question 3 is 1 mark)

- 4.** Change 3500 grams into kilograms.

..... kilograms

(Total for Question 4 is 1 mark)

- 5.** Here are some numbers:

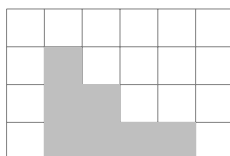
4 -6 1 -2 8

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)

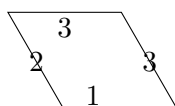
(b) Find the perimeter of the shape.

..... cm

(1)

(Total for Question 6 is 2 marks)

7. Here is a 4-sided spinner.



Sarah spins the spinner once.

(a) Choose the word that best describes the probability that the spinner lands on 3

impossible	unlikely	evens	likely	certain
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.....

(1)

James rolls a biased dice once. The probability that he gets the number 4 is 0.3

(b) Work out the probability that James does not get the number 4

.....

(1)

(Total for Question 7 is 2 marks)

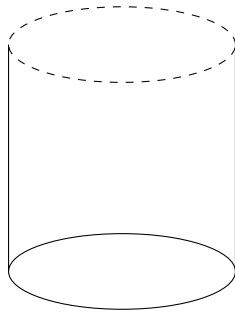
8. A rectangle has 4 right angles and opposite sides of equal length.

(a) Write down the mathematical name of a quadrilateral that has 4 right angles and 4 sides of equal length.

.....

(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 pets owned by 25 families.

Number of pets	Frequency
0	3
1	8
2	7
3	5
4	2

(a) Work out the median number of pets.

.....

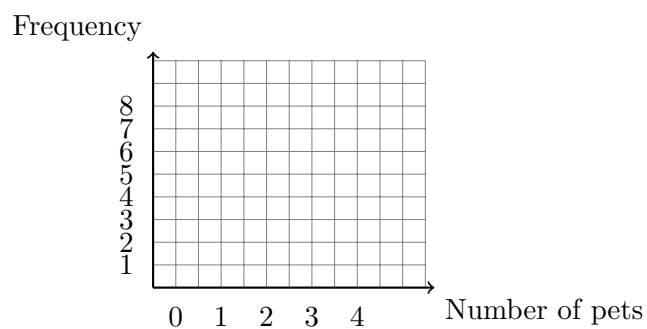
(2)

(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. Claire begins walking at 9:15am.
She walks for 1 hour and 20 minutes.
Claire then rests for 25 minutes.
She then walks for 55 minutes to a shop.
Does Claire get to the shop before 12:30pm?
You must show how you get your answer.

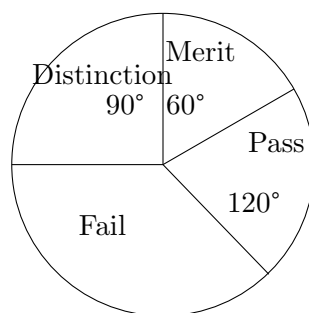
(Total for Question 10 is 4 marks)

11. Ethan thinks of a number.
He multiplies his number by 7 and then adds 5
His answer is 54
What number did Ethan think of?

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

12. Some students took a music exam.

The pie chart shows information about the grades the students got.



(a) Write down the modal grade.

.....

(1)

8 students got distinction.

(b) Work out the total number of students who took the music exam.

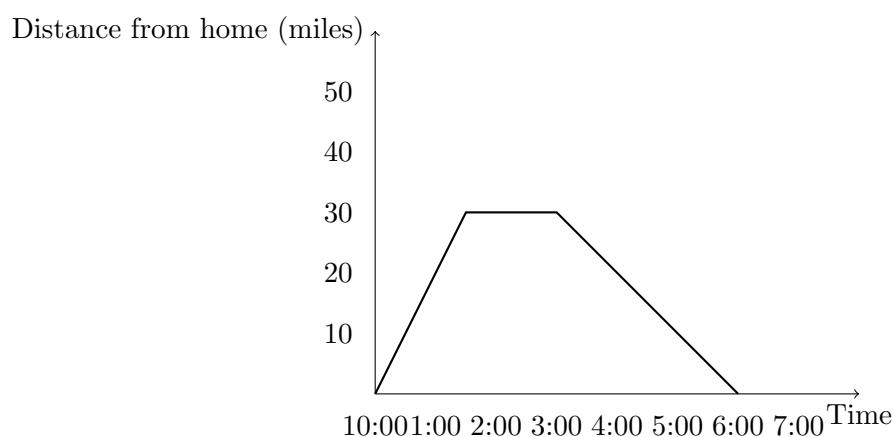
.....

(3)

(Total for Question 12 is 4 marks)

13. Hannah drove from her home to a beach.

Here is a travel graph for her journey.



Hannah stopped at a cafe on her way to the beach.

(a) (i) How many minutes did Hannah take to drive to the cafe?

..... minutes

(1)

(ii) Write down the distance from Hannah's home to the cafe.

.....miles

(1)

Hannah stayed at the beach for 45 minutes.

She then drove home without stopping.

Hannah arrived home at 16:30

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

(2)

(c) Work out the average speed for the journey from the beach to Hannah's home.

..... miles per hour

(1)

(Total for Question 13 is 5 marks)

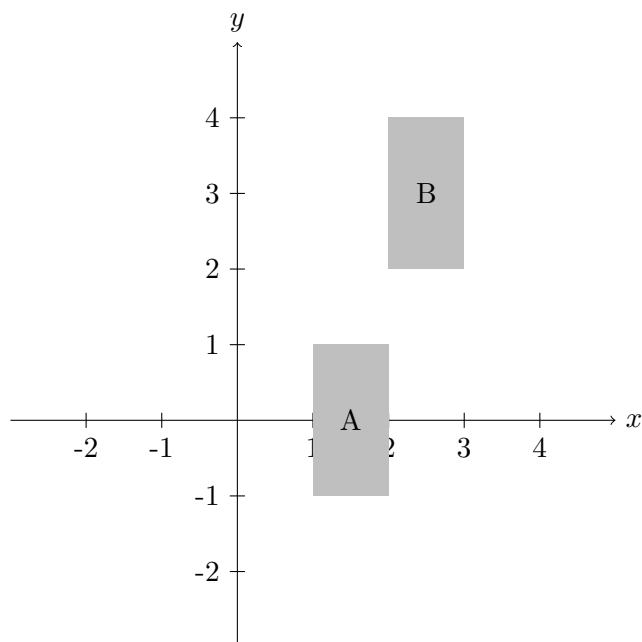
14. 80 boxes cost £5
150 bags cost £8
A bag is cheaper than a box.
How much cheaper?
Give your answer in pence correct to 1 decimal place.

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

15. There are only red beads and green beads in a bag.
number of red beads : number of green beads = 2 : 7
There are 24 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 P.



Town Q is 45 km from town P on a bearing of 070° .
Mark the position of town Q with a cross (×).
Use a scale of 1 cm to 10 km.

(Total for Question 17 is 2 marks)

18. Solve $5(3x - 2) = 25$

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

19. Lisa invests £2500 for 4 years at $y\%$ simple interest per year.
At the end of the 4 years, Lisa has received a total of £300 in interest.
Work out the value of y .

$y =$
(Total for Question 19 is 3 marks)

20. (a) Simplify $(k^3)^2$

.....
(1)

(b) Simplify $m^4 \times m^6$

.....
(1)

(c) Expand $3n(n^2 + 4n)$

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

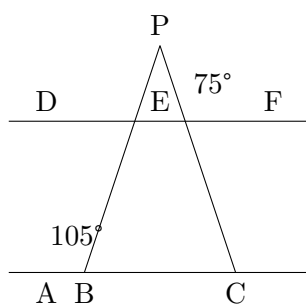
- 21.** Tom wants to know how much rice he will need for 600 people at a wedding.
 Each person who eats rice will eat 3 portions of rice.
 8.5g of rice is needed for each portion of rice.
 Tom assumes 75% of the people will eat rice.
 (a) Using this assumption, work out the amount of rice Tom needs.
 Give your answer correct to the nearest gram.

..... g

- (4)
 Tom's assumption is wrong.
 80% of the people will eat rice.
 (b) How does this affect your answer to part (a)?

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

- 22.** PQR and PST are straight lines.
 ABC and DEF are parallel lines.



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

- (Total for Question 22 is 5 marks)

23. It takes 12 hours for 7 identical pumps to fill a water tank.
How many hours would it take 4 of these pumps to fill another water tank of the same size?

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

24. A and B are numbers such that

$$A = 3^2 \times 5^3 \times 11 \quad (1)$$

$$B = 2^3 \times 5^2 \quad (2)$$

(a) Find the highest common factor (HCF) of A and B .

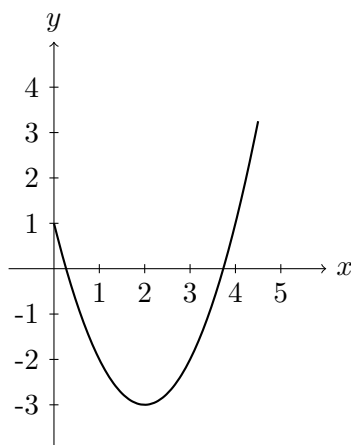
.....
(1)
(b) Find the lowest common multiple (LCM) of A and B .

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

25. Water flows from a pipe at a constant rate of $8.5 \text{ m}^3/\text{s}$
How many days does it take for 58752000 m^3 of water to flow from the pipe?
Give your answer correct to the nearest day.

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

26. Here is the graph of $y = x^2 - 4x + 1$



(a) Write down the coordinates of the turning point on the graph of $y = x^2 - 4x + 1$

(..... ,)

(1)

(b) Write down an estimate for one of the roots of $x^2 - 4x + 1 = 0$

.....

(1)

(Total for Question 26 is 2 marks)

27. A solid cuboid is made of metal.

The metal has a density of 7.8 g/cm^3

The volume of the cuboid is 96 cm^3

Work out the mass of the cuboid.

..... g

(Total for Question 27 is 2 marks)

28. (a) Write $(6 \times 10^5) : (3 \times 10^7)$ 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.

$$4.8 \times 10^3 \quad 4800 \quad 48 \times 10^{-2} \quad 0.0048 \times 10^6$$

(2)

TOTAL FOR PAPER IS 80 MARKS

**Educational mathematics resources:
stepupmaths.co.uk**