

FUNCTIONAL SKILLS MATHS LEVEL 2

PAST PAPER IN STYLE OF EDEXCEL



PAPER 1 VERSION 1 SECTION B (CALCULATOR)

Candidate surname:

Other names:

My signature confirms that I will not discuss the contentions of the test with anyone


SIGNATURE:

INSTRUCTIONS

Time: 1hr 30 minutes

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name.
- Sign the declaration.
- Answer **all** questions.
- Write your final answers in the boxes provided.
- You **must** clearly show how you get your answers in the spaces provided. Marks will be awarded for working out.
- Check your working and answers at each stage.
- Diagrams are not accurately drawn, unless otherwise indicated.
- **Calculators may be used.**
- Take the value of $\pi = 3.14$.

INFORMATION

- Total marks for this section is 48.
- The marks for **each** question are shown in brackets.
- This sign  shows where marks will be awarded for showing your checks.

ADVICE

- Read each question carefully before you start to answer it.
- Check your answers if you have time at the end.

1. Here is a set of data

1.9 2.5 3.5 3.3 3.3 2.9 4.1 8.2 8.1 4.6

(a) Find the median

(2)

(b) Find the mode

(1)

(Total for Question 1 is 3 marks)

2. Brian buys 10 multipack bags of crisps for £2 each.
There 18 individual packs of crisps in each multipack.

Brian is planning on selling the individual packs for 40p a bag.

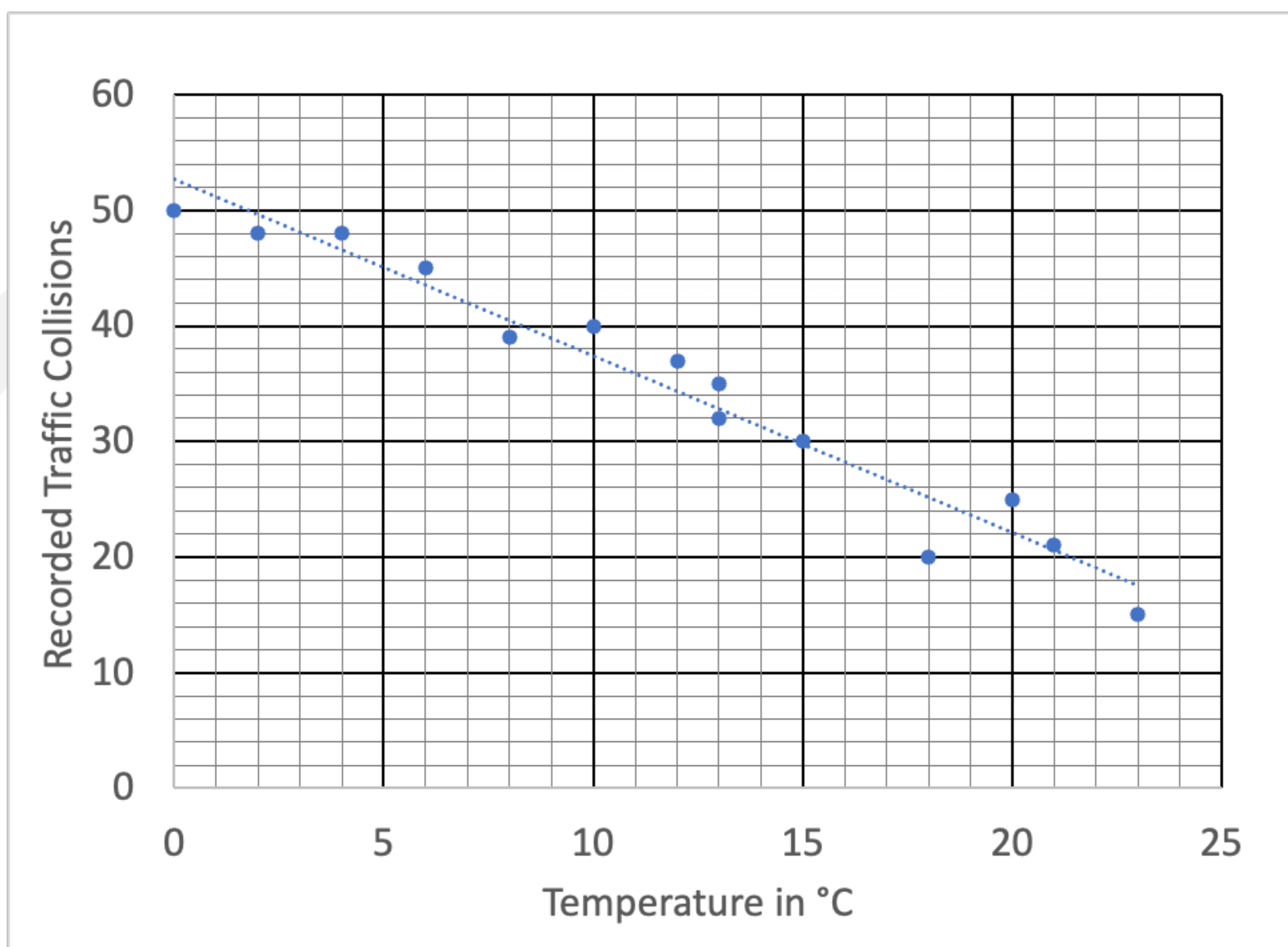
Work out how many individual packs he needs to sell to cover his initial spend.

(3)

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(Total for Question 2 is 3 marks)

3. Lola works for Maths Town council and has drawn a scattergraph to compare traffic collisions with the temperature on the day they occurred.



(a) Use the graph to complete the table

(2)

Collisions		48	48	45	39	40	37	35		30	20	25	21	15
Temperature	0	2		6	8	10	12	13	13	15	18	20		23

(b) Describe the relationship between the number of recorded traffic collisions and the temperature on the day they occurred.

(1)

(Total for Question 3 is 3 marks)

4. Suki buys a brand new car for £16,000.

She read that a car depreciates in value by 12.5% after one year and then by 7.5% each following year.

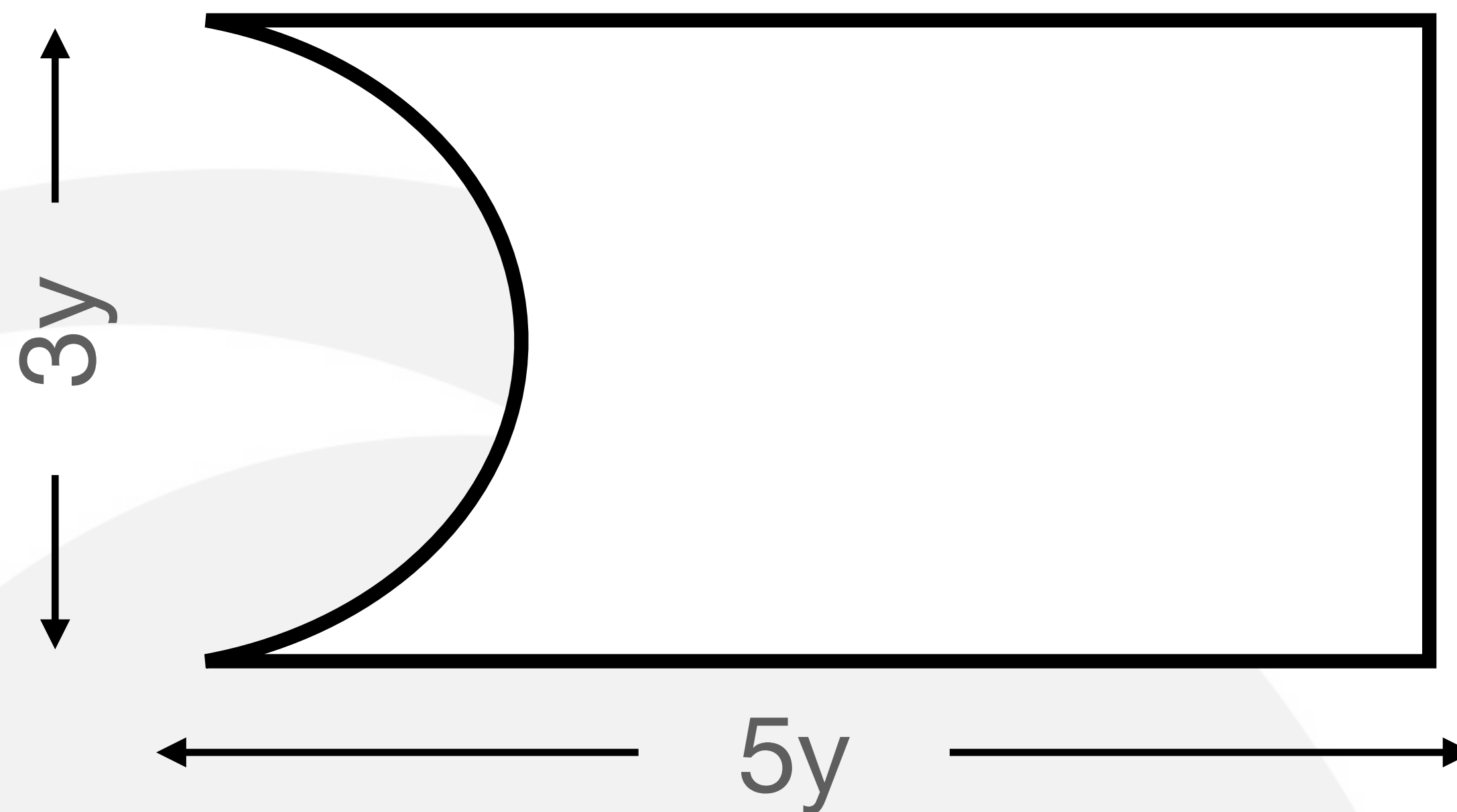
Work out how many years it will take for Suki's car to be worth less than £12,000

(4)

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(Total for Question 4 is 4 marks)

5. Here is the plan view of a bathroom floor.
The floor is a rectangle with a semicircle cut out for a bathtub.
The measurements are in meters.



Using $y = 0.5$ calculate the perimeter of the bathroom floor.
Give your answer to the nearest meter.

(5)

_____ meters

(Total for Question 5 is 5 marks)

6. (a) Write 0.72 as a fraction in its simplest form.

(1)

(b) Evaluate: $(6 - 1)^3 - 2 \times (4 + 3)$

(1)

(Total for Question 6 is 2 marks)

7. Julian is making Margaritas.
He uses tequila, orange liqueur and lime juice in the ratio 3:2:1

Julian has

- 1 litre of tequila
- 750 ml of orange liqueur
- 0.5 litres of lime juice

(a) Find the maximum margarita mix Julian can make.

(3)

Litres

(b) Work out many 120ml glasses this will fill.

(1)

(c) Use a reverse calculation to show a check of your working.

(1)

(Total for Question 7 is 5 marks)

8. Ava is considering joining a film club.

She sees two membership deals.

Deal 1

£60 annual payment.
12 free tickets.
30% off cinema tickets.

Deal 2

£11 per month.
Unlimited free tickets
1 year minimum subscription

Tickets to the cinema usually cost £8.50

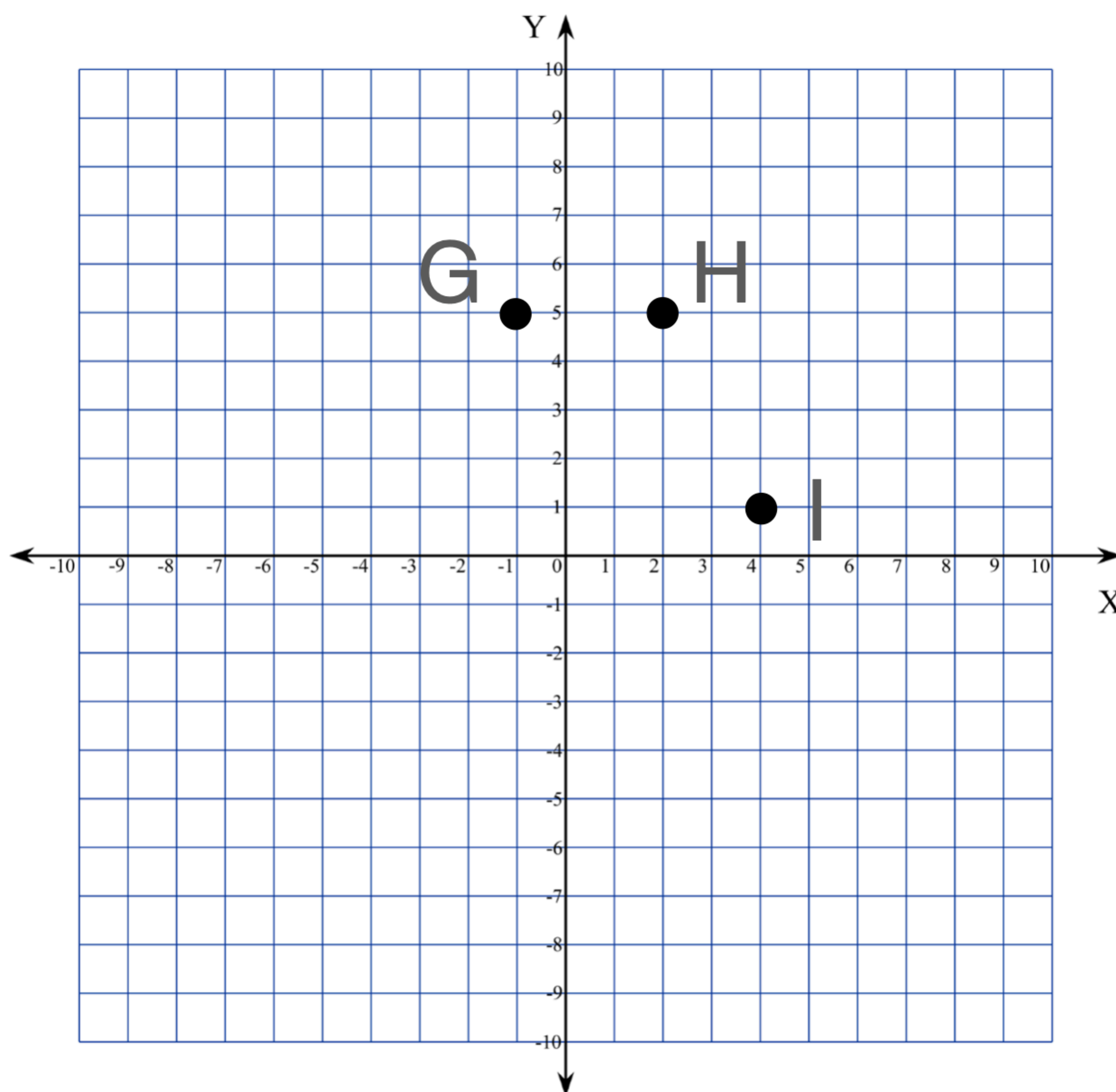
Ava thinks if she goes to the cinema twice a month for 10 months a year deal 1 will be cheaper.

Is Ava correct?
Show why you think this.

(5)

(Total for Question 8 is 5 marks)

9. Here is a grid with points G, H, I plotted



(a) Write down the coordinates of point G

(1)

(b) On the grid mark point J such that all four points join together to make a parallelogram.

(1)

(Total for Question 9 is 3 marks)

10. Bob monitors the attendance at a night club.

On Friday the attendance is 1024.

On Saturday the attendance is 1472.

- (a) Calculate the percentage increase in the number of people attending from Friday to Saturday. Give your answer to 1 decimal place.

(3)

Bob records the attendance for 10 weekends.
He finds the following:

Friday

Median = 920

Range = 234

Saturday

Median = 720

Range = 1205

Bob says that the busiest day was a Saturday.

- (b) Is he correct? Explain your Answer.

(2)

(Total for Question 10 is 5 marks)

11. Jim finds a table in a child development book.
The table shows the running speeds of children.

Height (inches)	Speed (m/s)
12 to 18	1
18 to 24	2
24 to 30	3
30 to 36	4

Jim measures his child to be 67cm.

$$1 \text{ inch} = 2.54 \text{ cm}$$

Jim wants to go to the shop 420 meters from his house.

(a) What is the fastest time he can expect get to the shop if his child runs all the way.

(3)

Minutes

Seconds

11. Jim does a survey of the heights of the other children at his Childs nursery. He puts the results in the table below.

Height (inches)	Frequency
12 to 18	8
18 to 24	4
24 to 30	10
30 to 36	2

Jim thinks that his child is taller than the mean height.

(b) Work out if Jim is correct.

(3)

(Total for Question 11 is 6 marks)

12. Yvonne is making 250 spherical ice lollies for a party. She decides to make them with orange juice.

She knows that the volume of a sphere is

$$V = \frac{4\pi r^3}{3}$$

The diameter of the spherical mould is 5cm.

As the volume of the orange juice will increase by 9% when frozen Yvonne will need to under-fill each mould accordingly.

Orange juice is sold in one litre cartons.

What is the minimum number of cartons Yvonne needs to buy to make the 250 lollies? (5)

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12.



Cartons

(Total for Question 12 is 5 marks)

TOTAL FOR SECTION B IS 48 MARKS