



THIRD SPACE
LEARNING

Mathematics

Paper 1

(Non-Calculator)

Foundation Tier

Edexcel GCSE

SET 1A

Mathematics Paper 1 (Non-Calculator) Foundation Tier

Edexcel GCSE SET 1A

Name

Total marks



Paper length: 1hr 30mins

Instructions

- Use black ink or ball-point pen.
- Fill in the boxes at the top of this page with your name, centre number and candidate number.
- Answer all questions.
- Answer the questions in the spaces provided
 - there may be more space than you need.
- You must show all your working.
- Diagrams are NOT accurately drawn, unless otherwise indicated.
- Calculators may not be used.

Information

- The total mark for this paper is 80
- The marks for each question are shown in brackets
 - use this as a guide as to how much time to spend on each question.

Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

You must have: Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser. Tracing paper may be used.

This practice paper is based on the topics from the **advanced information for the Summer 2022 exam series**.

Please note, this practice paper is an example to help revision, these topics can be tested in other ways and other topics may be included in the actual papers

- 1** Write the following numbers in order of size.

Start with the smallest number.

10.4 1.04 1.4 1.44 1.14

(Total for Question 1 is 1 mark)

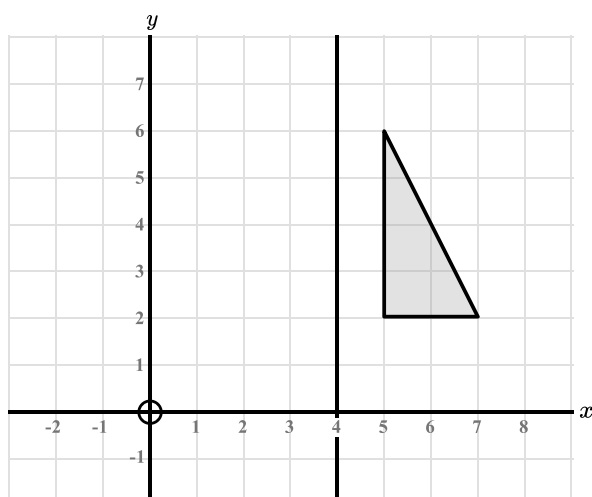
- 2** Simplify $7a + 5b - 3a + 4b$

(Total for Question 2 is 1 mark)

- 3** Convert 5.6km to metres

(Total for Question 3 is 1 mark)

- 4 Reflect the triangle in the mirror line $x = 4$



(Total for Question 4 is 1 mark)

- 5 Ricky earns £10 per hour. He records the number of hours he works in the table below:

Day	Hours
Monday	5
Tuesday	3
Thursday	6.5
Saturday	3.5

- (a) How much does Ricky earn this week?

(2)

- (b) The following week Ricky earns £200.

Of the £200, he spends 40% on clothes and a further £22.50 on a game for his games console. Ricky wants to buy a tablet costing £100. Does Ricky have enough money left? Show how you decide.

(2)

(Total for Question 5 is 4 marks)

- 6 Write 420 as a product of its prime factors. Give your answer in index form.

(Total for Question 6 is 2 marks)

- 7 Felicity says that

$$\frac{2}{7} + \frac{1}{4} = \frac{3}{11}$$

- (a) Explain Felicity's mistake.

(1)

- (b) Work out the correct answer to

$$\frac{2}{7} + \frac{1}{4}$$

(2)
(Total for Question 7 is 3 marks)

8 Calculate

















a) $-6 - 8$

(1)

b) $(-6)^2$

(1)**(Total for Question 8 is 2 marks)**

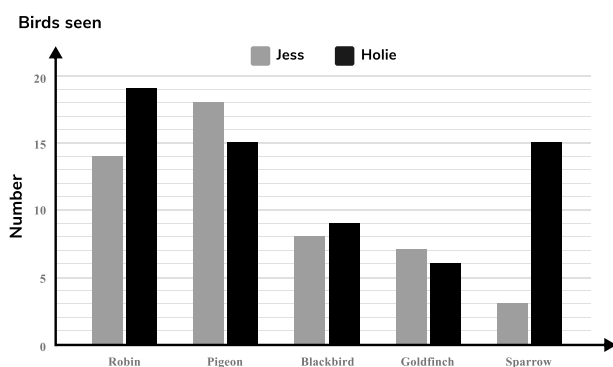
- 9**
- (a) Ellie counted the birds she saw in her garden one day. The pictogram below shows her results.

Robin	  
Pigeon	    
Blackbird	   
Goldfinch	 
Sparrow	 

Altogether Ellie saw 60 birds. How many blackbirds did Ellie see?

(3)

- (b) The following bar chart shows the number of birds seen by Jess and Hollie.



Who saw the most birds, Ellie, Jess or Hollie? Give a reason for your answer.

(2)**(Total for Question 9 is 5 marks)**

10 Write these numbers in ascending order:

$$0.77 \qquad \frac{4}{5} \qquad 72\% \qquad \frac{3}{4}$$

(Total for Question 10 is 2 marks)

11 The formula $v = u + at$ is used to work out the velocity of an object that is accelerating.

Work out the value of v when $u = 10$, $a = 5$ and $t = 6$.

(Total for Question 11 is 2 marks)

12 Gary has 24 sweets. He eats $\frac{3}{8}$ of them.

Ben has 30 sweets. He eats $\frac{2}{5}$ of them.

Who has the most sweets left? Show your working.

(Total for Question 12 is 3 marks)

13 Here are the first three patterns in a sequence:



(a) Write down a formula for the number of triangles in the n th term pattern in the sequence.

(2)

(b) Explain why there will not be a pattern containing 20 triangles.

(1)

(Total for Question 13 is 3 marks)

14 Here is a stem showing the data about the heights of pupils in a class. All heights are in cm.

11	8 9
12	1 2 2 4 9
13	0 0 3 5 6 7
14	1

Key: 14 3 = 143cm

(a) Calculate the range.

(2)

(b) What is the probability that a pupil chosen at random is 130cm or taller?

(2)

(Total for Question 14 is 4 marks)

15 A shop sells apples and oranges in the ratio 5:2.

It sells apples for 30p and oranges for 40p.

If the shop sells 35 pieces of fruit altogether, how much money does the shop receive? Give your answer in pounds and pence.

(Total for Question 15 is 4 marks)

16 (a) Write the number 4 720 000 in standard form.

(1)

(b) Write 7.1×10^{-3} as an ordinary number.

(1)

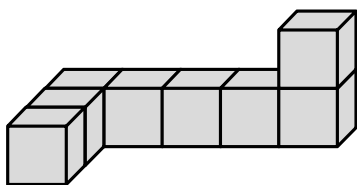
(c) Calculate $(4.6 \times 10^4) + (5.12 \times 10^5)$

Give your answer in standard form.

(2)

(Total for Question 16 is 4 marks)

17 Here is a 3D shape.



On the square grid below, draw the plan view of the shape.



(Total for Question 17 is 2 marks)

18 Solve the inequality $3(y - 4) < 6$

(Total for Question 18 is 3 marks)

- 19** Lucy bought her house for £200000.
She sells her house 5 years later and makes a 20% profit.

(a) How much does Lucy sell her house for?

(2)

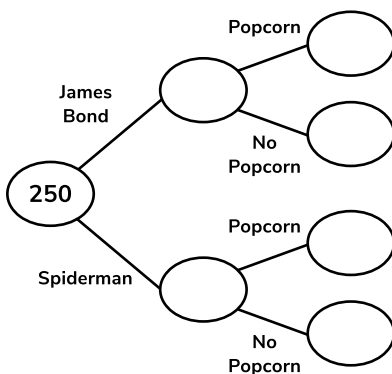
(b) Write down the ratio of the original price:new price. Give your answer in its simplest form.

(2)

(Total for Question 19 is 4 marks)

- 20** On Saturday, 250 people go to the cinema.
There were two films shown on Saturday: James Bond and Spiderman.
Tickets were sold with or without popcorn.
120 people watched James Bond.
Of those who watched James Bond, 35% bought tickets with popcorn.
140 people bought tickets without popcorn.

(a) Complete the frequency tree below.



(3)

(b) What fraction of those who watched Spiderman had popcorn?

(1)

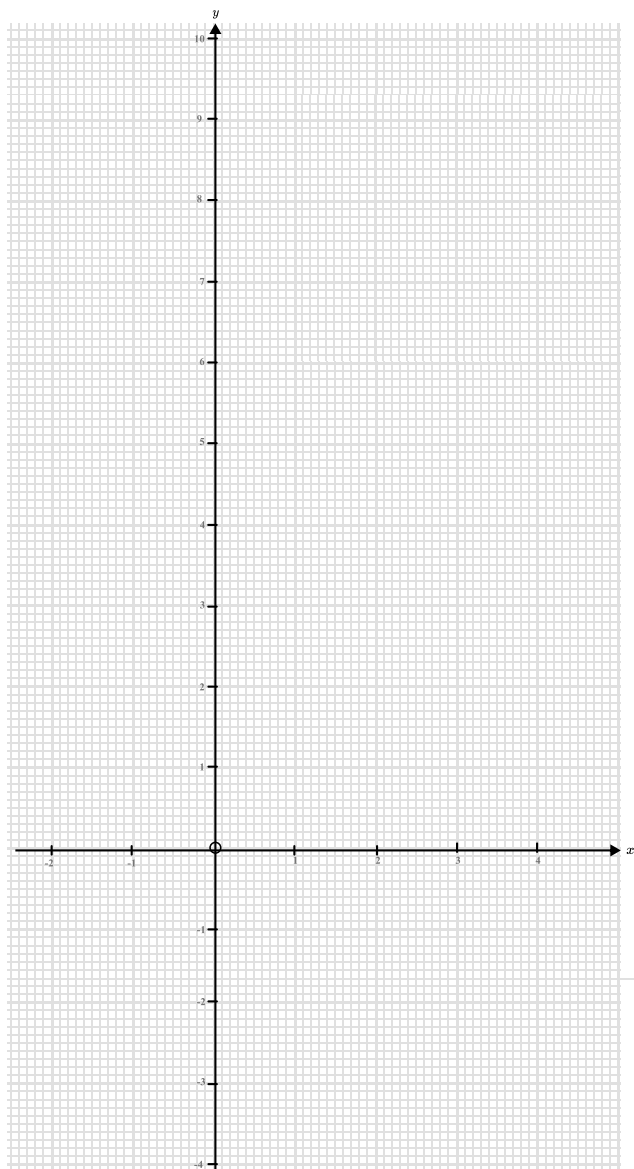
(Total for Question 20 is 4 marks)

21 (a) Complete the table of values for $y = x^2 - 2x$

x	-2	-1	0	1	2	3	4
y	8		0			3	8

(2)

(b) On the grid below, draw the graph of $y = x^2 - 2x$



(2)

(c) Write down the solutions of the equation $x^2 - 2x = 0$

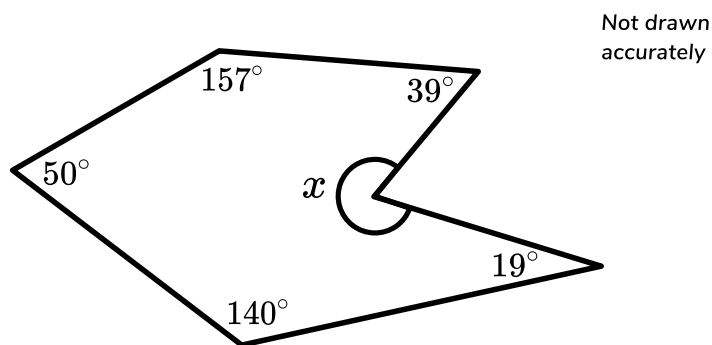
(1)

(Total for Question 21 is 5 marks)

- 22 Rob is travelling at a constant speed in a car. He travels 105km in 1 hour and 30 minutes. The speed limit is 80km/h. Is Rob travelling within the speed limit? Show how you decide.

(Total for Question 22 is 3 marks)

- 23 This is a hexagon. Work out the size of angle x .



(Total for Question 23 is 3 marks)

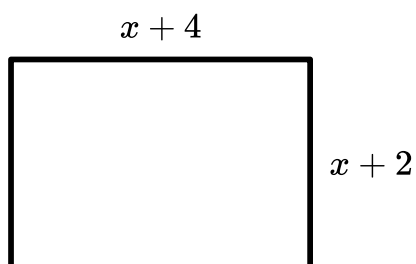
- 24 The cost of completing a project, c , is directly proportional to the number of hours, h , required to complete the project.

The cost of completing a project that takes 4 hours is £320.

Work out the cost of completing a project which takes 7 hours.

(Total for Question 24 is 3 marks)

25 The area of this rectangle is 35cm^2



(a) Show that $x^2 + 6x - 27 = 0$

(2)

(b) Solve the equation $x^2 + 6x - 27 = 0$ and hence find the perimeter of the rectangle.

(2)

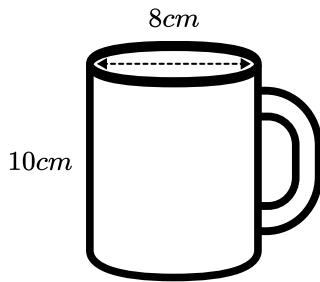
(Total for Question 25 is 4 marks)

26 Work out the value of $\sin(30) + \tan(45)$

(Total for Question 26 is 2 marks)

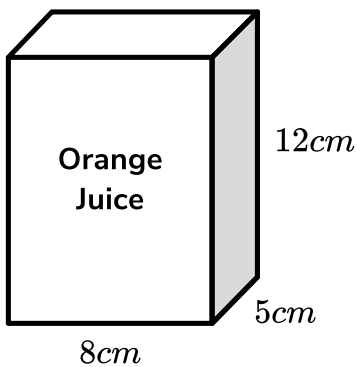
- 27 (a) The jug is a cylinder. It has a diameter of 8cm and a height of 10 cm.

Work out the volume of this jug. Give your answer in terms of π .



(3)

- (b) Zainab has a carton full of orange juice. She wants to pour the orange juice into the jug.



Will the juice fit into the jug? Explain your answer.

(2)

(Total for Question 27 is 5 marks)

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