GCSE

Mathematics: Non Calculator

Paper 2

Specification EDEXCEL A

Name	

Time allowed
- 30 minutes.

For this paper you must have
- A ballpoint pen with black ink.
- A ruler with millimetre measurements.

Instructions
- Do all rough work in this question booklet.
- Answer **all** the questions.
- You **must** show your working for all questions.

The maximum mark for this paper is 40.

Question	Mark
1	
2	
3	
4	
5	
6	
7	
8	
9	
TOTAL	

Grade Boundaries

A* **33**
A **27**
B **22**
C **16**
D **8**

1. (a) Simplify $2a^2b^7 \times 3a^3b$.

.....

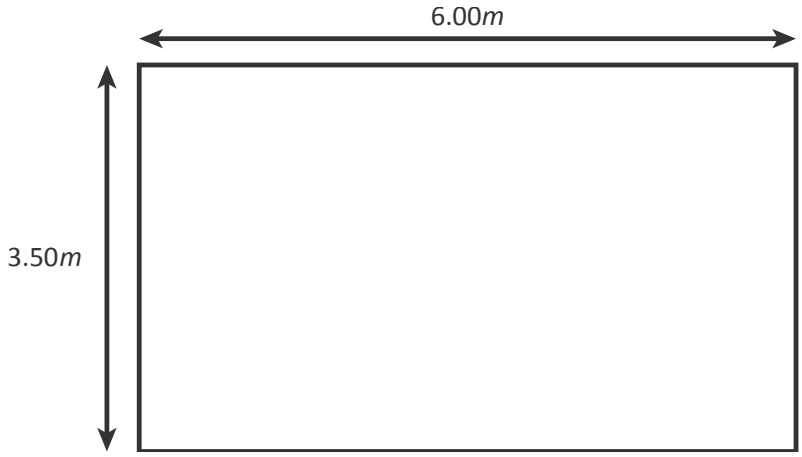
(1 mark)

(b) Factorise $5a - 15$.

.....

(1 mark)

2. The diagram shows Bob's garden.
Bob wants to pave his garden with stone tiles. A stone tile is a square with sides of 50 cm.



A stone tile costs £3.20. Calculate how much it would cost Bob to pave his garden.

£ .....

(3 marks)

3. (a) Sue needs the tank of petrol in her car to be $\frac{5}{7}$ full in order to drive home.

The tank is $\frac{3}{5}$ full.

Calculate whether Sue has enough petrol to drive home. You **must** show all your working.

(2 marks)

(b) Sue is renting her car.

The car rental service she is using charges a £60 service charge plus £20 fer each day the car is used.

(i) Write a formula for the total cost, C, Sue pays for the car after using it for d days.

(1 mark)

(ii) When Sue returns the car to the rental service she is charged **£180**. Work out how many days the car was rented for.

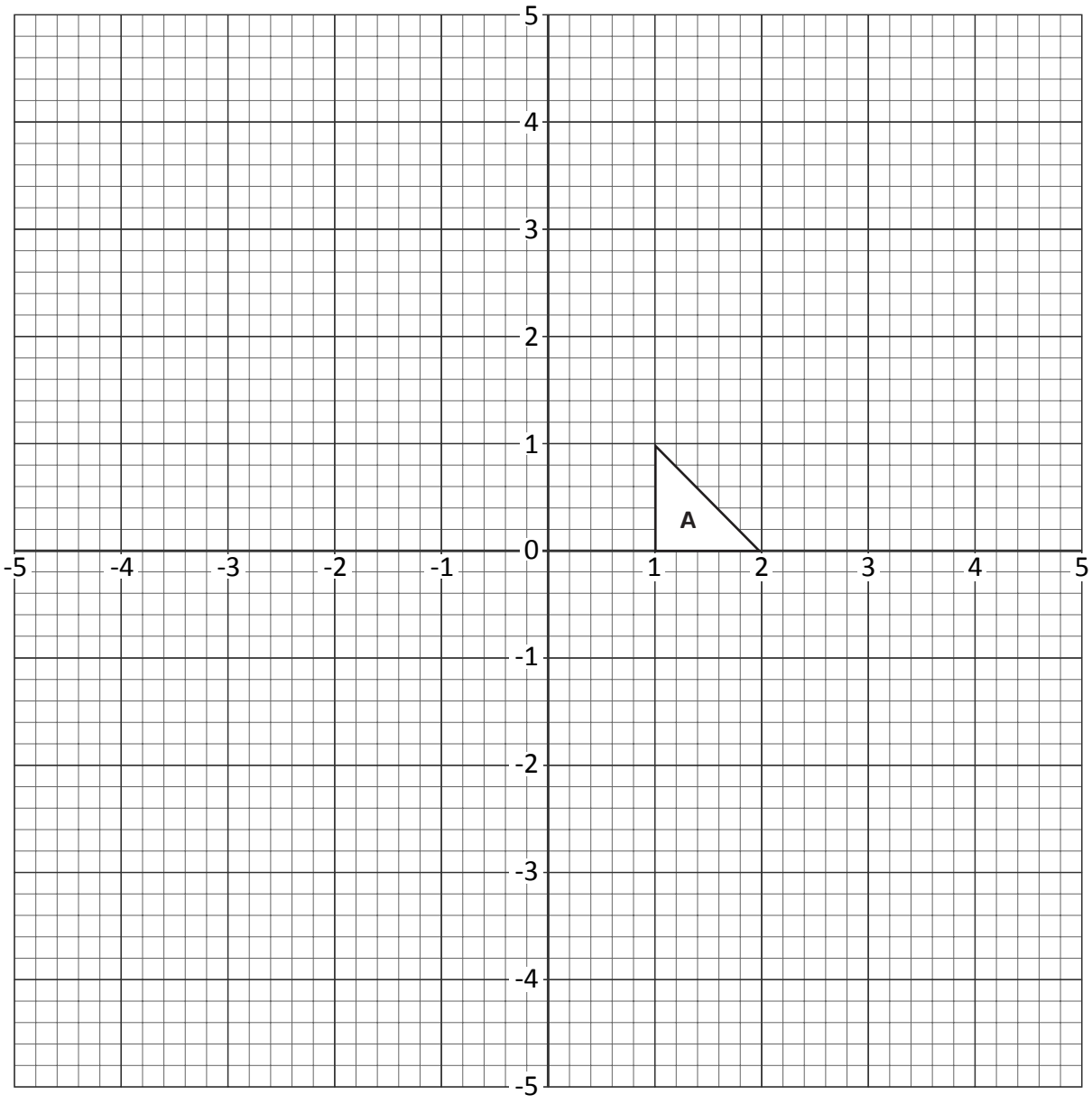
..... days

(2 marks)

Turn over for Question 4 ▶

4. A line has the equation $y = 2x + 2$.

(a) Draw a line of the graph with equation $y = 2x + 2$. *(1 mark)*



(b) Reflect triangle **A** in the y-axis and label the reflection **B**. Hence state the coordinates of the point where triangle **B** touches the line $y = 2x + 2$.

(..... , ...)

(2 marks)

(c) Write down an equation of a line which is parallel to the line $y = 2x + 2$.

(1 mark)

(d) A second line has equation $y = x^2 - 1$.

(i) Use algebra to show that the point (3, 8) lies on the line $y = x^2 - 1$.

(1 mark)

(ii) Find the coordinates of the points where $y = 2x + 2$ and $y = x^2 - 1$ intercept.

Coordinates of interception (..... , ...)

(..... , ...)

(4 marks)

Turn over for Question 5 ▶

5. Calculate the following, giving your answer in its simplest form.

(a) $\frac{3}{2} \times \frac{1}{6}$

.....

(1 mark)

(b) $\frac{4}{5} \div 0.2$

.....

(2 marks)

(c) $\frac{4}{7} - \frac{1}{2}$

.....

(2 marks)

6. (a) Evaluate $\left(\frac{9^9}{9^4}\right)^{\frac{1}{5}}$

.....

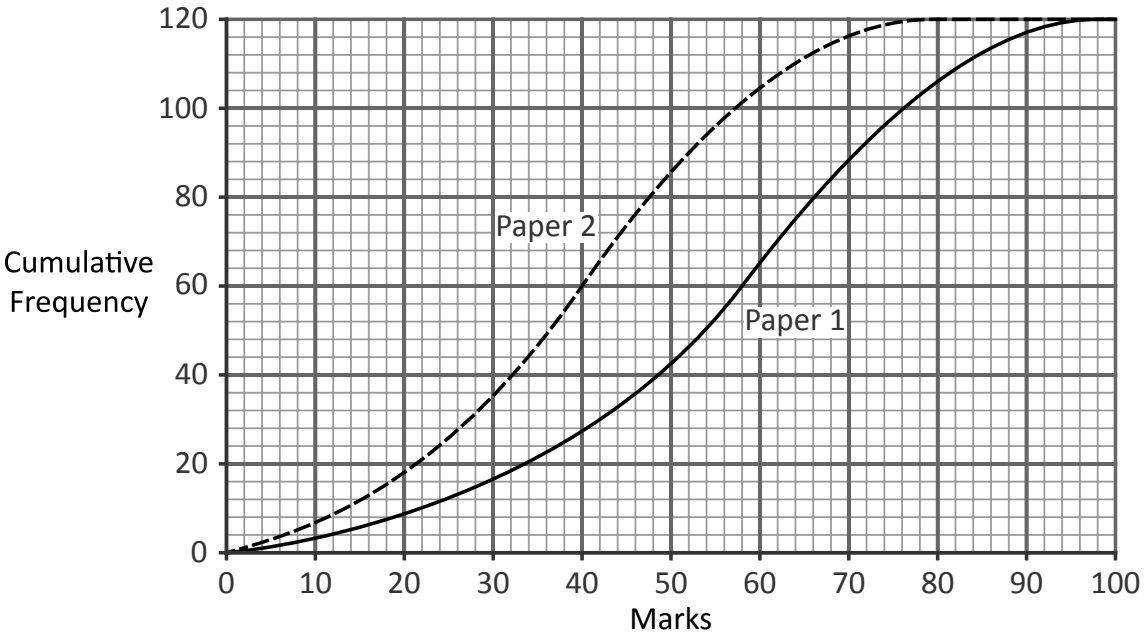
(2 marks)

(b) Work out the value of $16^{\frac{3}{4}}$

.....

(2 marks)

7. The scores 120 people got in two maths tests are plotted on the cumulative frequency diagram below.



(a) Use the cumulative frequency diagram to work out

(i) The median mark gained on **Paper 1**.

.....

(1 mark)

(ii) The maximum mark gained on **Paper 2**.

.....

(1 mark)

(iii) The interquartile range for **Paper 2**.

.....

(2 marks)

(b) Which paper do you think was the **hardest**? Give a reason for your answer.

.....

.....

.....

.....

(2 marks)

Turn over for Question 8 ▶

8. Simplify fully $\dfrac{3p^2 - 4p + 20}{p^2 - 4}$

.....

(3 marks)

9. Make t the subject of the formula $3t - p = y(4 + t)$

.....

(3 marks)

END OF QUESTIONS