



THIRD SPACE
LEARNING

Mathematics

Paper 3

(Calculator)

Foundation Tier

OCR GCSE

SET 3

Mathematics Paper 3 (Calculator) Foundation Tier OCR

GCSE SET 3

Name

Total marks

Paper length: 1hr 30mins



Question	Mark
1	
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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 be used.

Information

- The total mark for this paper is 100
- 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 November 2024 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 (a) Write 35% as a fraction

(a) [1]

- (b) Work out $\frac{1}{4}$ of 24

(b) [1]

- (c) James asked some people what their favourite vegetable was.

$\frac{2}{5}$ of the people he asked said carrots.

14 people said carrots.

How many people did James ask?

(c) [2]

- 2 (a) On Tuesday, Mohammad works for 3 hours 20 minutes.

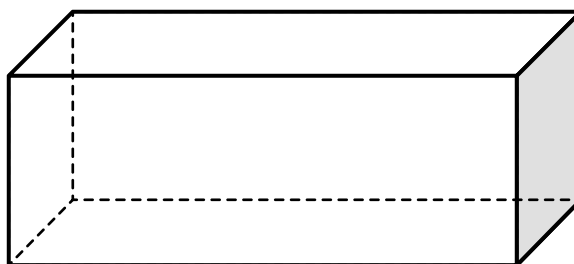
He starts at 8.15am. What time does he finish?

(a) [1]

- (b) Mohammad gets paid £12 per hour. How much does Mohammad earn on Tuesday?

(b) [2]

3 (a) Here is a 3D shape.



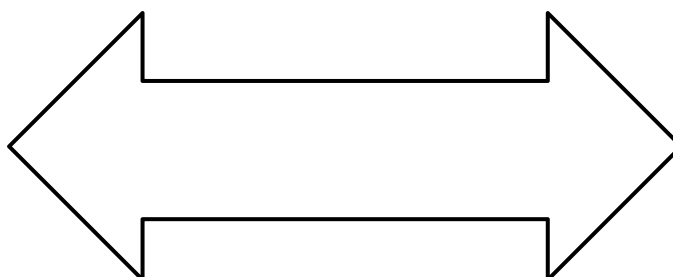
(i) Write down the name of the 3D shape.

(a)(i) **[1]**

(ii) Write down the number of vertices of the 3D shape.

(a)(ii) **[1]**

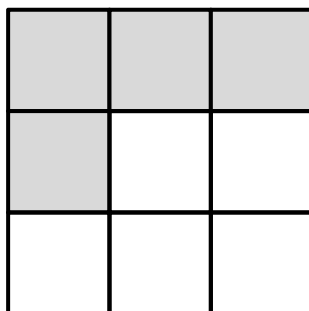
(b) Here is a 2D shape.



On the diagram, draw all of the shape's lines of symmetry.

[1]

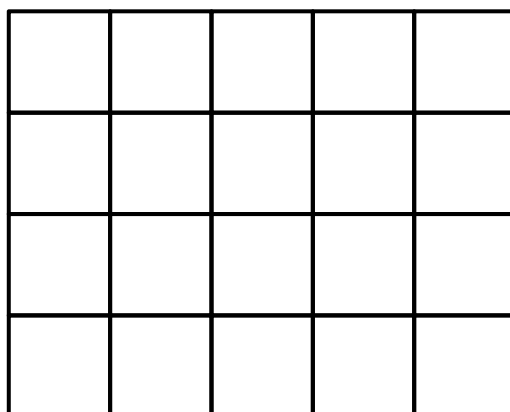
- 4 (a) Here is a 3D shape.



Write down the fraction of the squares which are shaded.

(a) [1]

- (b) Here is another grid of squares.



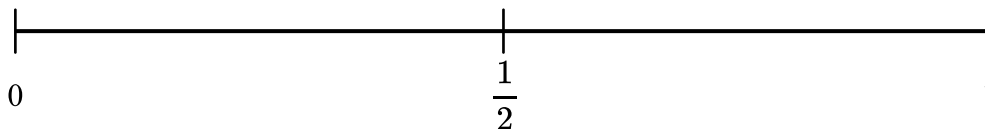
Shade some of the squares so that

Shaded squares : unshaded squares = 1 : 3

[1]

5 An ordinary dice is thrown.

- (a) On the probability scale below, mark with a cross (×) the probability the dice lands on a prime number.



[1]

- (b) Write down the probability that the dice lands on a number greater than 4.

(b) [1]

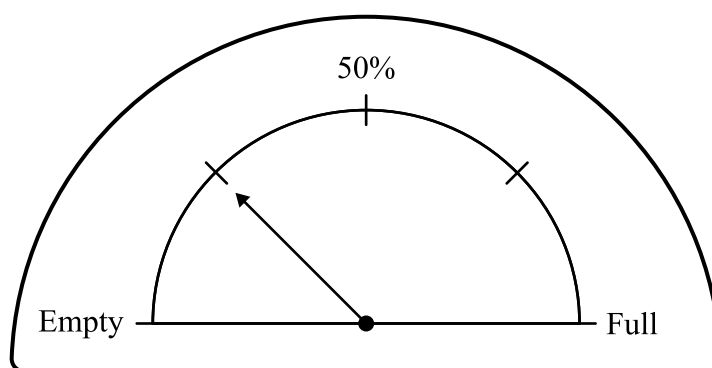
6 Gary buys a screwdriver for £35 and 3 boxes of screws for £4.99 each.

Gary pays with 3 £20 notes.

How much change does Gary get?

..... [3]

- 7 Here is the fuel gauge for a car.



The fuel tank holds 50 *litres* when it is full.

Work out how many *litres* of fuel are left in the tank.

..... *litres* [3]

- 8 (a) Work out the value of $\frac{500}{2.5 \times 8}$

(a) [1]

- (b) Write down the reciprocal of 3.

(b) [1]

9 Christine is choosing a gift for a friend from these gifts.

Category A	Category B
Biscuits (B)	Mug (M)
Chocolates (C)	Plant (P)
	Slippers (S)

Christine chooses one gift from category A and one gift from category B.
Complete this list to show all of the possible gift combinations.

[2]

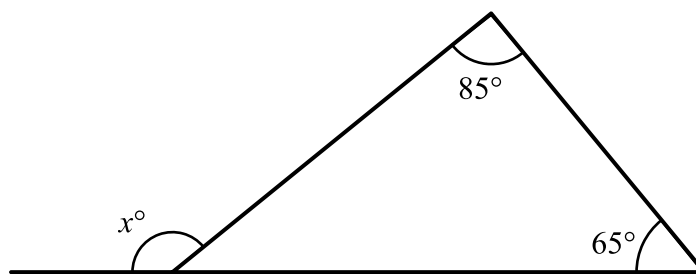
Category A	Category B
B	M

10 Jovy spends 2 weeks working on her project.
Olivia spends 18 days working on her project.

Write, in its simplest form, the ratio
time spent by Jovy:time spent by Olivia

[2]

- 11 Here is a triangle. One line is extended.



Work out the size of angle x .

.....[°] [2]

- 12 Pens are sold in small packs of 12 pens, medium packs of 18 pens or large packs of 25 pens. Freddie buys 6 small packs of pens, 5 medium packs of pens and some large packs of pens. In total Freddie buys 312 pens. Work out how many large packs of pens Freddie buys.

..... [3]

13 Here is some information about the minimum and maximum temperatures in Finland last year.

	Minimum	Maximum
January	−13°C	−6°C
June	6°C	

(a) The maximum temperature in June was 21°C warmer than the maximum temperature in January.

What was the maximum temperature in June?

(a) _____ °C [2]

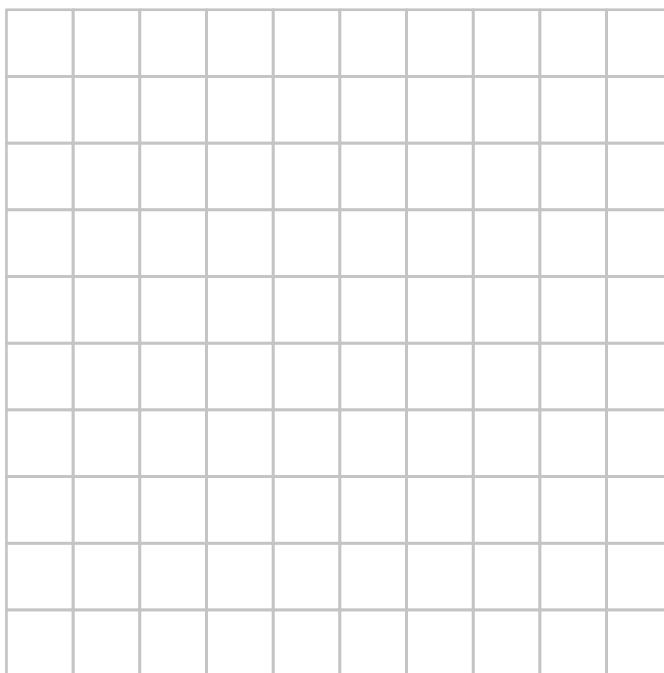
(b) Fiona visited Finland during 2023.
During her visit, the temperature was −10°C.
Did Fiona visit Finland in January or June?
Give a reason for your answer.

She visited in _____

Reason: _____

[2]

14 On the centimetre grid, draw a triangle with an area of 10cm^2



[2]

15 (a) Simplify $\frac{4p + 10}{2}$

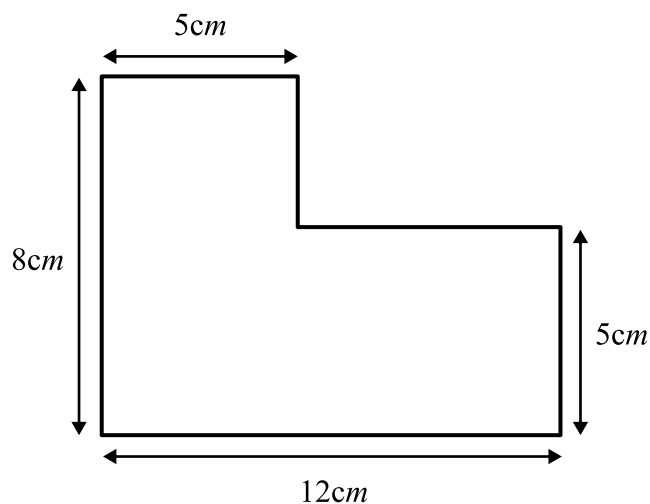
(a) **[1]**

(b) $P = a^2 - b$

Write down a pair of values for a and b which make P negative.

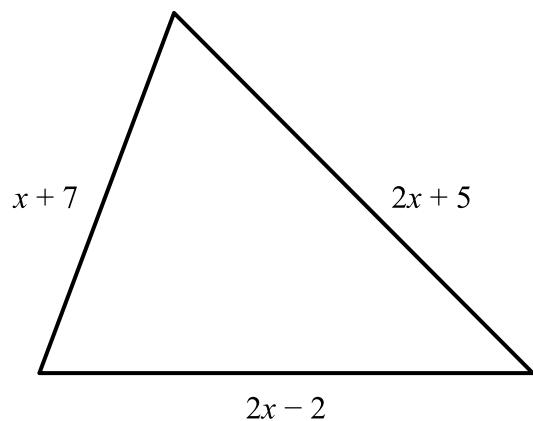
(b) $a =$ $b =$ **[2]**

16



(a) Work out the perimeter of this shape.

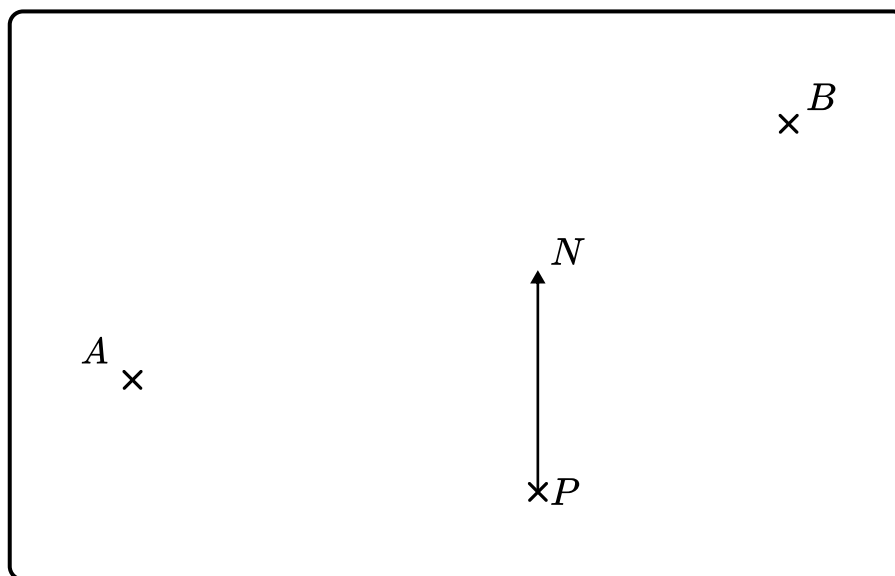
(a) *cm* [2]



(b) Write an expression, in terms of x , for the perimeter of this triangle.

(b) [2]

17 The accurately drawn map shows the positions of two airports, A and B , and a plane, P .



Scale: 1 cm represents 10 km

(a) How far is the plane from airport A ?

(a) [2]

(b) The plane needs to fly to airport B . Write down the bearing of airport B from the plane.

(b) [2]

18 Kai and Damian share some money in the ratio 2:7.

(a) What fraction of the money does Damian get?

----- [1]

(b) If Damian gets £30 more than Kai, what is the total amount of money they shared?

£ ----- [3]

19 Make P the subject of the formula $F = \frac{PQ}{12}$

----- [2]

20 Hamza is going on holiday.

He wants to change £400 into euros.

Hamza can exchange his money at two different travel agents.

Travel agent *A* has an exchange rate of £50 = €56

Travel agent *B* has an exchange rate of £1 = €1.14

Which travel agent will give Hamza the most euros and by how many?

Travel agent _____ will give Hamza € _____ more **[5]**

21 (a) Write 4739 correct to 2 significant figures.

----- [1]

(b) Write 0.00581 to 1 significant figure.

----- [1]

(c) The number, n , is rounded to the 1 decimal place.

The result is 5.3

Complete the error interval for n .

----- $\leq n <$ ----- [2]

22 (a) Solve $4n + 5 = 3(2n - 7)$

(a) $n =$ ----- [3]

(b) Solve $2p^3 = 250$

(b) $p =$ ----- [2]

23 For each statement, complete the box to show the power of 10.

(a) (i) $1000 = 10^{\boxed{}}$

[1]

(ii) Ten million = $10^{\boxed{}}$

[1]

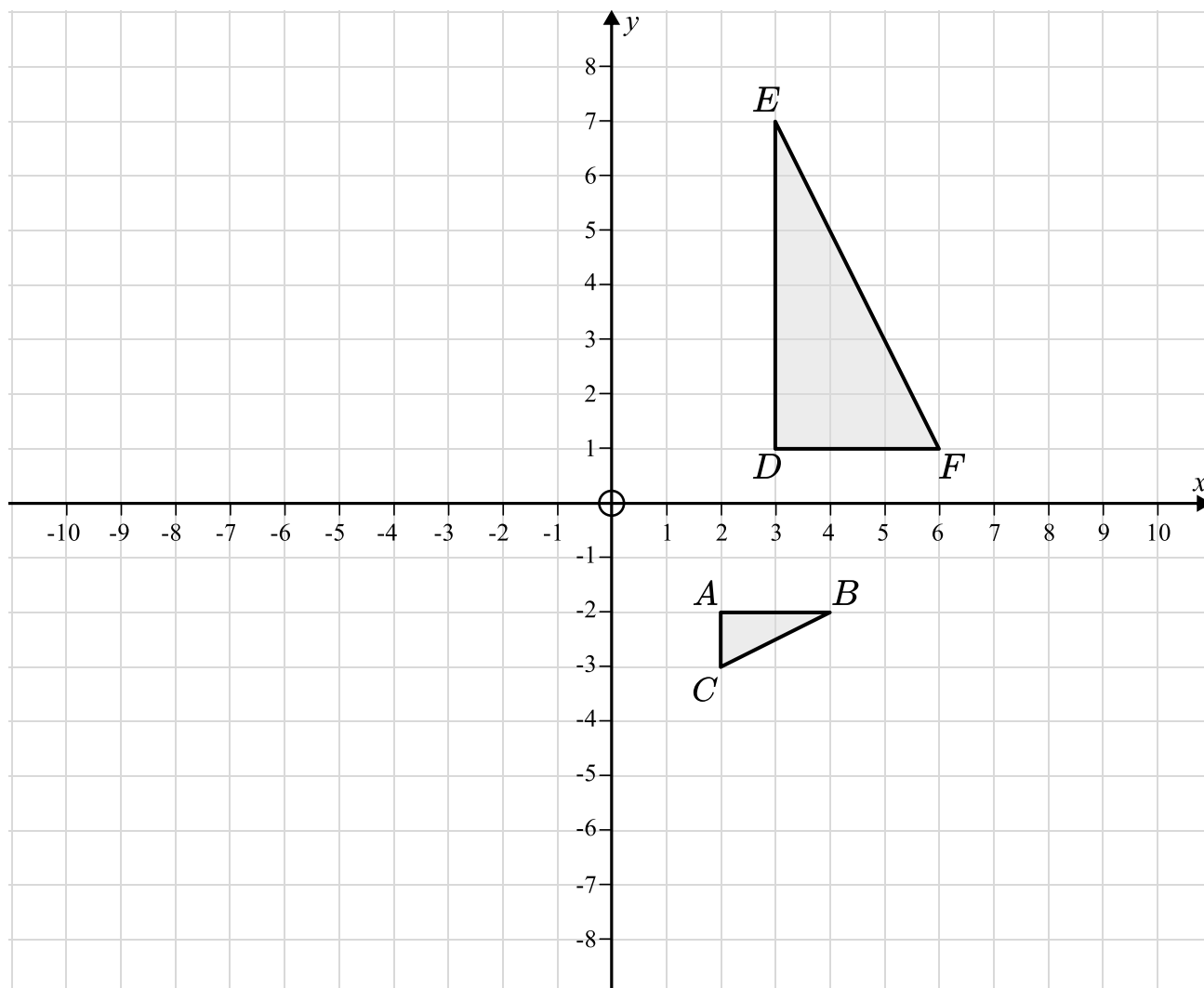
(iii) $0.001 = 10^{\boxed{}}$

[1]

(b) $0.35 \times 10^4 = 3.5 \times 10^{\boxed{}}$

[1]

24 Here are the triangles ABC and DEF .



(a) Rotate triangle ABC 90° anti-clockwise about $(0, -1)$.

[2]

(b) Describe fully the single transformation that maps triangle ABC onto triangle DEF .

[3]

25 The manager of a clothes shop records the size of the clothes sold one day.

8				
10	10	10		
12	12	12	12	12
14	14			
16	16	16		
18	18			

(a) Work out the mean size of the clothes sold that day.

----- [2]

(b) Emily says that the mean is not a very useful average.
Explain what Emily is correct.

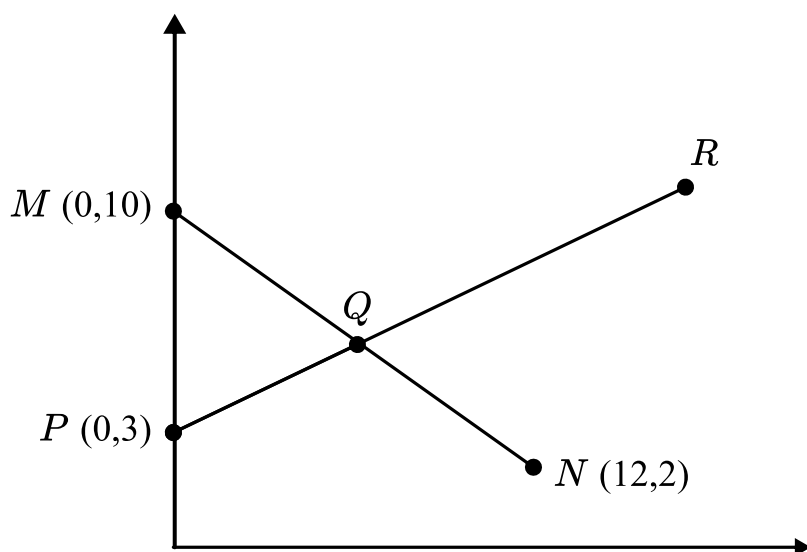
----- [1]

(c) Which average would be the most useful in this example? Explain why.

----- [2]

26 The point Q is the midpoint of the line MN .

The point Q lies on the line PR such that $PQ:QR = 1:2$.



Find the coordinates of the point R .

(..... ,) [3]

27 Peter invests £2000 in a savings account for 3 years.

He is paid compound interest at a rate of 4% per annum.

How much money does Peter have in his account at the end of the 3 years?

£ [3]

28 Find the highest common factor (*HCF*) of 48 and 64.

..... [2]

29 The speed limit in a village is changed from 30 *mph* to 20 *mph*.

Before the speed limit was changed, it took Beth five minutes to drive through the village.

(a) What distance does Beth travel through the village?

(a) [2]

(b) Mark says that the journey will now take Beth one minute longer.

Is Mark correct?

Show how you decide.

(b) [2]

- 31** The value of Richard's car has decreased by 12%.
The car now has a value of £8360.

Find the value of the car before the decrease.

----- [2]

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