Write your name here

Surname	Other names

Centre Number | Candidate Number

EDEXCEL Mock Test Papers paper1-Test3

Mathematics — **Higher Tier**

Paper 1 (Non-Calculator)
Time: 1 hour 30 minutes

Paper Reference **1H**

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

Total Marks

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.
- **Calculators may not be used.**
- Diagrams are **NOT** accurately drawn, unless otherwise indicated.
- You must **show all your working out**.

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.

Answer ALL questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

1 Write 240 as a product of powers of its prime factors.

.....

(Total for Question 1 is 3 marks)

2 Solve $5x - 5 < 20$

.....

(Total for Question 2 is 2 marks)

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3 Eeshu buys 30 packets of crisps for £15.

She sells each packet of crisps for 70p.

Work out Eeshu's percentage profit.

.....

(Total for Question 3 is 3 marks)

4 (a) The first five terms of an arithmetic sequence are

2 5 8 11 14

Write down an expression, in terms of n, for the nth term of this sequence

.....

(2)

4 (b) Work out 0.008 × 0.25

.....

.....

(2)

(Total for Question 4 is 4 marks)

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5 Ivy writes down three numbers a, b and c

$a : b = 2 : 5$

$b : c = 4 : 7$

(a) Find $a : b : c$

.....

(2)

(b) Express a as a fraction of the total of the three numbers a, b and c.

.....

(2)

(Total for Question 5 is 4 marks)

6 (a) Write 567 000 in standard form.

.....

(1)

6 (b) Write 1.25×10^{-4} as an ordinary number.

.....

(1)

(Total for Question 6 is 2 marks)

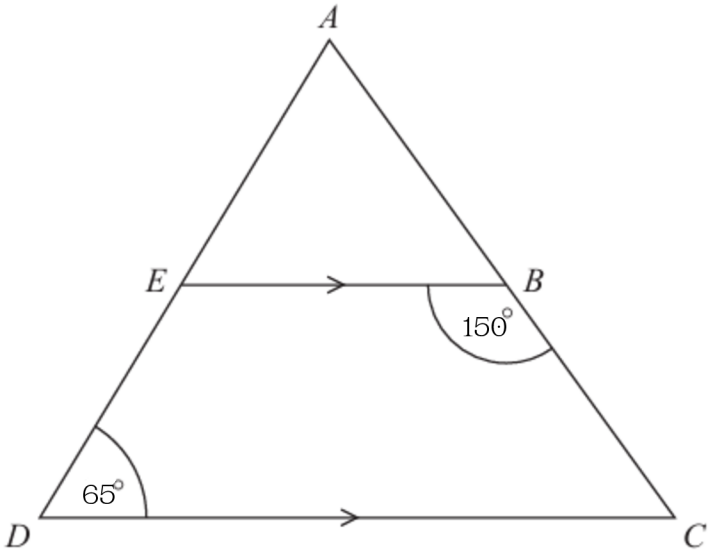
7 p is inversely proportional to t

Complete the table of values.

t	2	3	5	6
p	90			

(Total for Question 7 is 3 marks)

8 ADC is a triangle.



AED and ABC are straight lines.
EB is parallel to DC.

Angle EBC = 150°
Angle ADC = 65°

Work out the size of angle EAB.
You must give a reason for each stage of your working

(Total for Question 8 is 5 marks)

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9 Two numbers p and q are such that:
p is a multiple of 4.
q is an odd number.
The highest common factor (HCF) of p and q is 8.

Write down a possible value for p and a possible value for q.

.....

(Total for Question 9 is 2 marks)

10 (a) Write down the value of 8^{0-}

.....

(1)

(b) Factorise fully $36 - 4x^2$

.....

(2)

(Total for Question 10 is 3 marks)

11 (a) Solve $x^2 = 7x + 30$

.....

(3)

(b) Write down the value of $32^{\frac{1}{2}}$

.....

.....

(1)

(Total for Question 11 is 4 marks)

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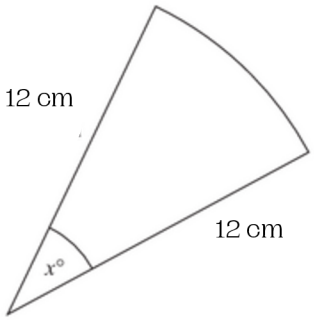
12 A train travels for 30 minutes at an average speed of 80 km/h.
How far will the train travel in these 30 minutes?

..... km

(Total for Question 12 is 2 marks)

13 The diagram shows a sector of a circle of radius 12 cm



The length of the arc is 6π cm.
Work out the value of x

x =.....

(Total for Question 13 is 3 marks)

14 Here is a list of numbers.

14 19 15 15 21 11 14 19 14

(a) Find the range

.....

(2)

(b) Calculate the mean

.....

(2)

Bethany says, "The median is the middle number, so the median is 21."

(c) Bethany is incorrect, explain why.

.....

.....

.....

(1)

(Total for Question 14 is 5 marks)

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15 Sam is thinking of a number.

$\frac{1}{4}$ of Sam's number is 48.

Work out the number Sam is thinking of.

.....

.....

.....

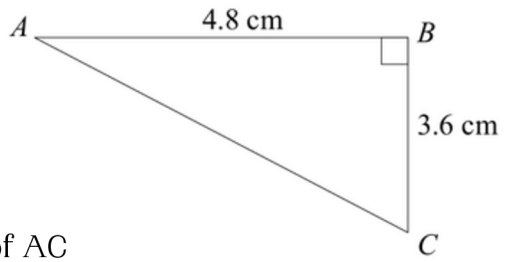
(Total for Question 15 is 2 marks)

16 Simplify $10g + 8h - 4g + 2h$

.....

(Total for Question 16 is 2 marks)

17

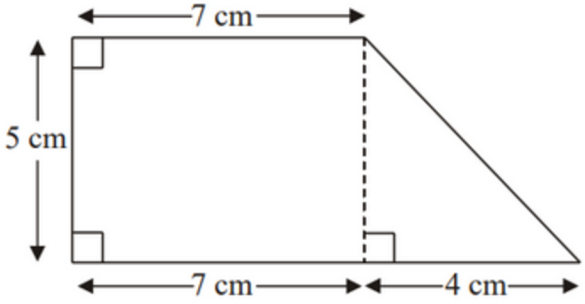


Calculate the length of AC

.....

(Total for Question 17 is 3 marks)

18



NOT drawn accurately

Work out the area of the shape.

..... cm^2

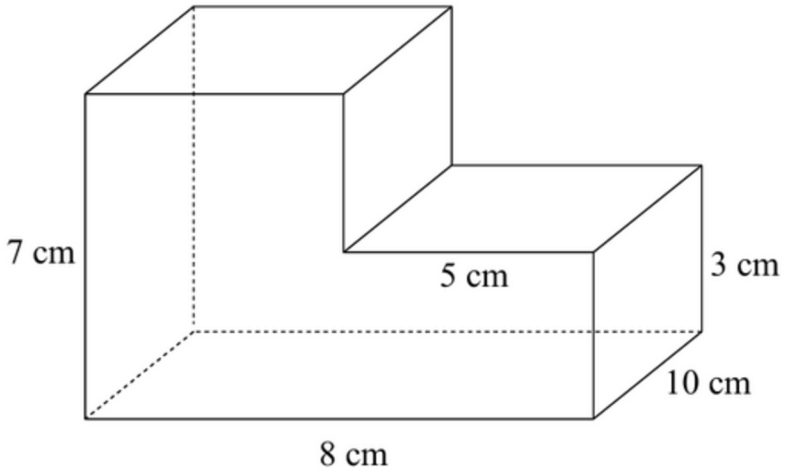
(Total for Question 18 is 3 marks)

19 In a box of chocolates there are
10 milk chocolates
5 dark chocolates
8 white chocolates
Isabella takes one of the chocolates at random.
Write down the probability that Isabella takes a white chocolate.

.....

(Total for Question 19 is 2 marks)

20 The diagram shows a prism.
Calculate the total surface area of the prism.

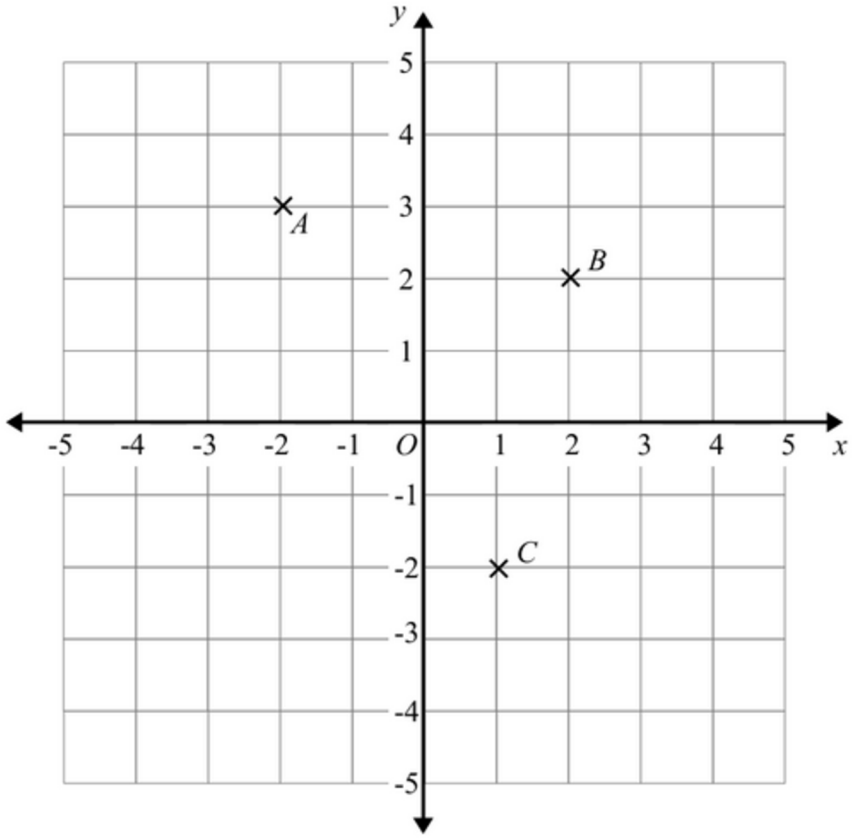


.....

(4)

(Total for Question 20 is 4 marks)

21



(a) Write down the coordinates of point C.

(..... , ...)

(1)

(b) Find the coordinates of the midpoint of AB.

(..... , ...)

(1)

ABCD is a square.

(c) On the grid mark with a cross (×) the point D so that ABCD is a square.

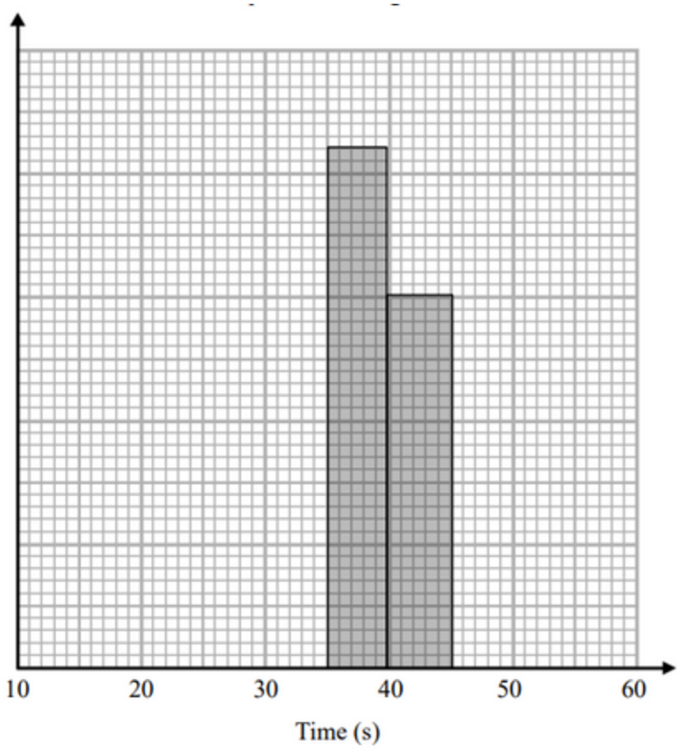
(1)

(Total for Question 21 is 3 marks)

22 The table shows information about the time, in seconds, taken for some people to complete a Lego puzzle

Time (s)	Frequency
$10 < t \leqslant 25$	12
$25 < t \leqslant 35$	28
$35 < t \leqslant 40$	42
$40 < t \leqslant 45$	
$45 < t \leqslant 60$	9

(a) Use the information on the table to complete the histogram.



(b) Use the histogram to complete the table.

(Total for Question 22 is 4 marks)

23 In a bag there are only red counters, blue counters, green counters and yellow counters.
A counter is taken at random from the bag.

The table shows the probabilities that the counter will be green or will be yellow.

Colour	Red	Blue	Green	Yellow
Probability			0.25	0.15

The probability of picking a red counter is three times the probability of picking a blue counter.
If there are 40 green counters in the bag, how many red counters are there?

.....

(Total for Question 23 is 4 marks)

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24 Solve the simultaneous equations

$3x + y = 15$
$5x + 2y = 24$

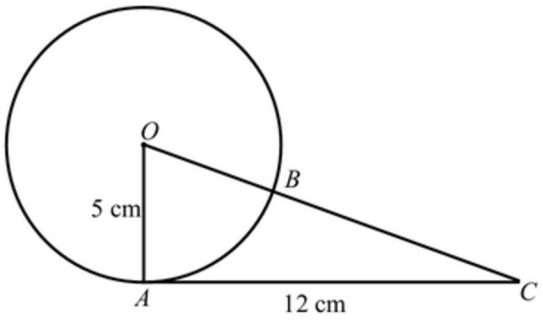
x = ...

y = ...

(Total for Question 24 is 4 marks)

25 A and B are points on the circumference of a circle, centre O.
AC is a tangent to the circle.
OBC is a straight line.

OA = 5 cm
AC = 12 cm



Find the length of BC.
You must show all your working

.....

(Total for Question 25 is 4 marks)

TOTAL FOR PAPER IS 80 MARKS