EXAMINATIONS COUNCIL OF ESWATINI
Eswatini General Certificate of Secondary Education

CANDIDATE NAME									
CENTRE NUMBER						CANDIDATE NUMBER			

MATHEMATICS **6880/03**

Paper 3 Short-Answer Questions (Extended) **October/November 2025**

1 hour 30 minutes

Candidates answer on the Question Paper.

Additional Materials: Scientific Calculator
Geometrical instruments

READ THESE INSTRUCTIONS FIRST

Write your name, centre number and candidate number in the spaces provided.
Write in dark blue or black pen.
You may use a soft pencil for any diagrams, graphs or rough working.
Do **not** use staples, paper clips, highlighters, glue or correction fluid.

Answer **all** questions.

If working is needed for any question it must be shown below that question.
The number of marks is given in brackets [ ] at the end of each question or part question.

If the degree of accuracy is not specified in the question, and if the answer is not exact, give the answer to three significant figures.
Give answers in degrees to one decimal place.

For π, use your calculator value or 3.142.
The total number of marks for this paper is 80.

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This document consists of **16** printed pages and **4** blank pages.

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1 Evaluate $\sin^{-1}\left(\sqrt[3]{0.9}\right)^2$.

Answer .....° [1]

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2 The ratio of girls to boys in a class is 8 : 7.

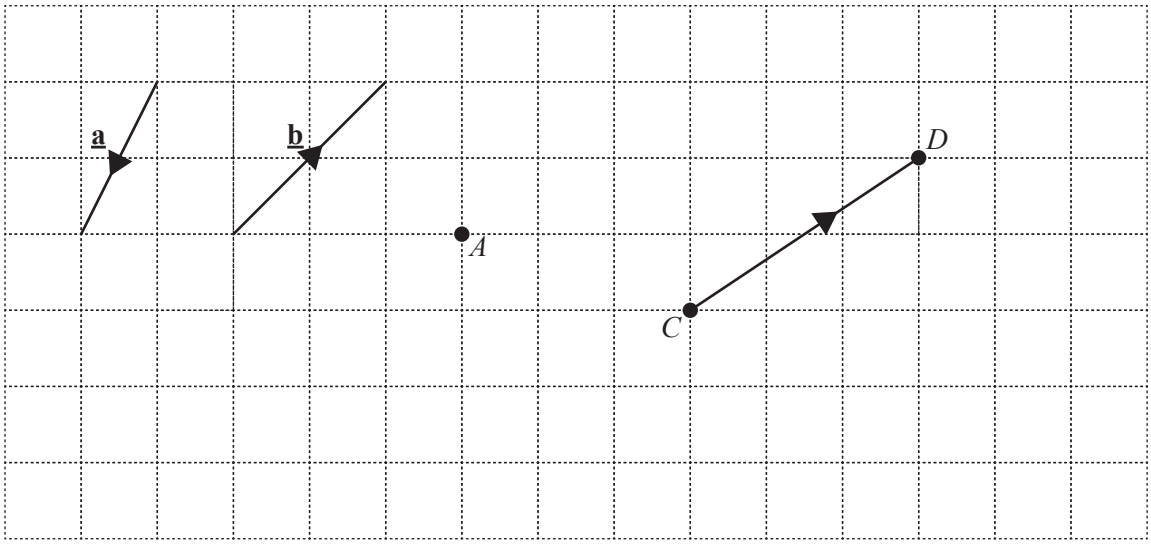
Express the number of girls as percentage of the class.

Answer .....% [2]

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3 Vectors $\underline{\mathbf{a}}$ and $\underline{\mathbf{b}}$ are represented on the grid.



(a) Draw $\overrightarrow{AB}$ on the same grid such that.

$\overrightarrow{AB} = 2\underline{\mathbf{a}} + \underline{\mathbf{b}}$ [2]

(b) $\overrightarrow{CD} = h\underline{\mathbf{a}} + k\underline{\mathbf{b}}$.

Find the values of h and k.

Answer (b) $h =$ ....., $k =$ ..... [2]

---

4 The equation of a line is $y - mx = 5$.
The line passes through (2, 9).

Find the gradient of the line and the y-intercept.

Answer gradient = ...

y-intercept = ... [3]

---

5 $\overrightarrow{OA} = \begin{pmatrix} 3 \\ 7 \end{pmatrix}, \overrightarrow{AB} = \begin{pmatrix} 5 \\ 3 \end{pmatrix}$.

Write $\overrightarrow{OB}$ as a column vector.

Answer ..... [2]

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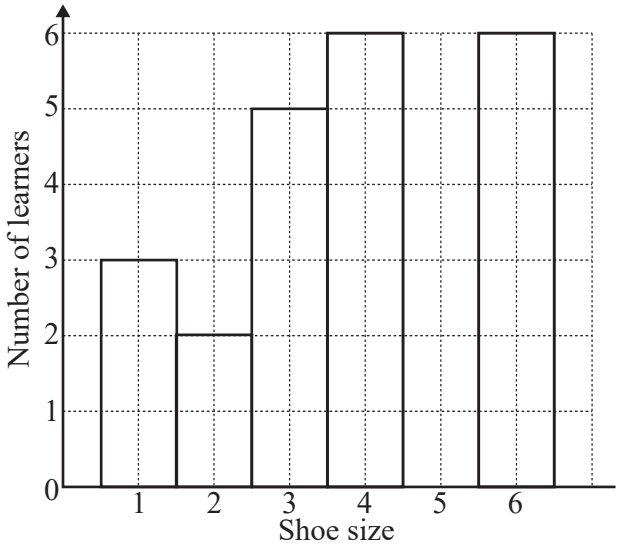
6 $h(x) + 14 = x + 36$.

Find $h^{-1}(2)$

Answer ..... [3]

For Examiner's Use

7 The bar chart represents the shoe sizes of 25 learners.
The sizes range from size 1 to size 6.



(a) Complete the bar chart to show the bar for size 5. [2]

(b) Find the median size.

Answer (b) ..... [1]

8 The mean of the marks for a History class is 37.
The sum of all their marks is 1554.

Calculate the number of learners in the class.

Answer ..... [2]

---

9 $\mathscr{E} = \{\text{natural numbers}\}$

$Q = \{2, 4, 6, 8, \ldots\ldots\}$

$R = \{x : x = t^2$ where t is a positive integer$\}$

(a) Name the type of numbers in

(i) set R,

Answer (a)(i) ..... [1]

(ii) set Q'.

Answer (a)(ii) ..... [1]

(b) List the lowest 3 elements of $R \cap Q'$.

Answer (b) ..... [2]

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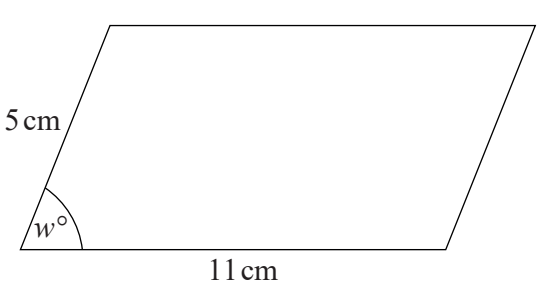
10 At a meeting, there were 25 men.
The ratio of men to women was 5 : 4.

Find the total number of men and women in the meeting.

Answer ..... [2]

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11 A parallelogram is drawn for you.
The base of the parallelogram is 11 cm long.
The slanting side is 5 cm long.
The area of the parallelogram is 44 cm^2.



Find the value of w.

Answer $w =$ ..... [3]

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12 You are given

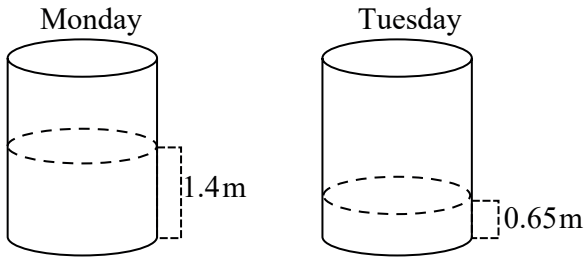
$$\begin{pmatrix} a & -1 \\ 4 & 2 \\ -4 & 1 \end{pmatrix} \begin{pmatrix} -2 \\ 5 \end{pmatrix} = \begin{pmatrix} -3 \\ 2 \\ b \end{pmatrix}$$

Find the values of a and b.

Answer $a =$ ..... $b =$ ..... [3]

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13 On Monday, the volume of water in a cylindrical tank was $3.56\,m^3$.
The depth of water was 1.4 m.
On Tuesday, the depth of water in the tank was 0.65 m.



NOT TO SCALE

Calculate the volume of water in the tank on Tuesday.

Answer ..... m^3 [2]

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14 The points $A(-1, 2)$, $B(3, a)$ and $C(5, 8)$ lie on a straight line.

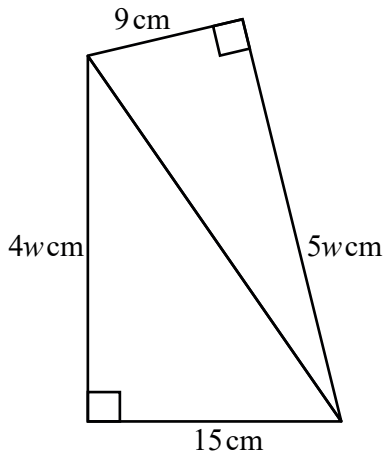
Find the value of a.

Answer $a =$ ..... [3]

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15



NOT TO SCALE

Find the value of w.

Answer $w =$ ..... [3]

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16 **(a)** $p = \frac{5x}{3}$ and $q = \frac{7x}{15}$.

Write $2p + q$ in terms of x.

Answer (a) ..... [2]

(b) $y - x = 3$ and $2m + y = 5$

Write m in terms of x.

Answer (b) ..... [2]

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[Turn over

17 Solve.

(a) $x + 5 = \frac{-6}{x}$

Answer (a) $x =$ ..... or $x =$ ..... [4]

(b) $\frac{1}{3} = \frac{3x - 4}{6}$

Answer (b) $x =$ ..... [2]

---

18 Factorise.

(a) $5k^2 - 35k$

Answer (a) ..... [2]

(b) $3m^2 - 13m + 12$

Answer (b) ..... [2]

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19 The value of a car decreased by 15% over a period of time.

State the ratio of the old value to the new value.

Write your answer in the form

old value : new value = 1 : x.

Answer 1 : ..... [2]

---

20 The table shows 3 sequences.

1	2	3	4	5	…	n
9	16	25	36	a	…	l
8	15	24	b	48	…	m

(a) Find the values of a and b.

Answer (a) a = ... b = ... [2]

(b) Write l and m in terms of n.

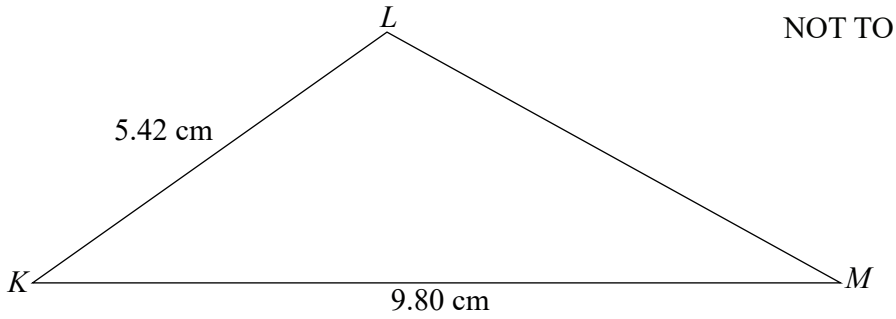
Answer (b) l = ...

m = ... [3]

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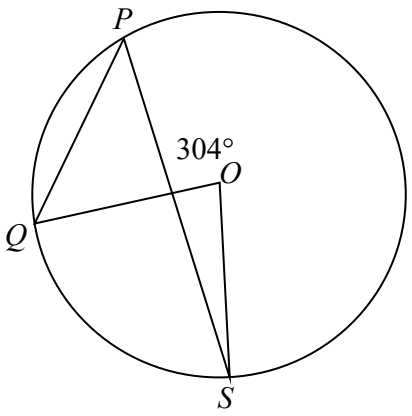
21 The perimeter of triangle *KLM* is 21.64 cm.



Calculate the size of angle *KLM*.

Answer ..... ° [5]

22 The vertices P, Q and S are on the circumference of the circle.
The centre of the circle is O.
The reflex angle $QOS = 304°$.

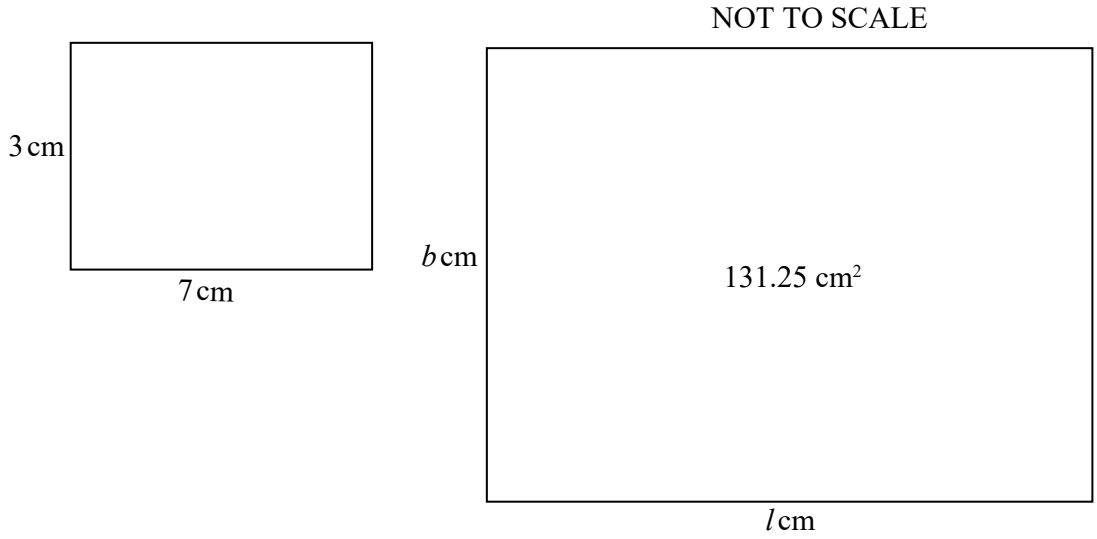


NOT TO SCALE

Calculate angle QPS.

Answer ..... ° [2]

23 The two rectangles are similar.
The area of the larger rectangle is 131.25 cm^2.



Work out the values of b and l.

Answer b = ... l = ... [3]

24 The probability that Musa buys the newspaper on any day is $\frac{3}{8}$.

The probability that Themba buys the newspaper on any day is $\frac{3}{4}$.

The probability that Mandla buys the newspaper on any day is $\frac{1}{2}$.

Find the probability that exactly two of them buy the paper on a particular day.

Answer ..... [3]

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[Turn over

25 The table represents the amount of money a group of 30 people spent on airtime in a week.

Money (E)	$0 < x \leq 30$	$30 < x \leq 50$	$50 < x \leq 60$	$60 < x \leq 70$	$70 < x \leq 75$
Frequency	7	10	8	3	2

Calculate an estimate of the mean.

Answer ..... [4]

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26 Factorise.

$5ab - 5ac + 4b - 4c$

Answer ..... [2]

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