EXAMINATIONS COUNCIL OF ESWATINI
Eswatini General Certificate of Secondary Education

CANDIDATE NAME									
CENTRE NUMBER						CANDIDATE NUMBER			

MATHEMATICS **6880/04**

Paper 4 Structured Questions (Extended) **October/November 2025**

2 hours 30 minutes

Candidates answer on the Question Paper.

Additional Materials: Scientific calculator
Geometrical Instruments
Tracing paper (optional)

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.

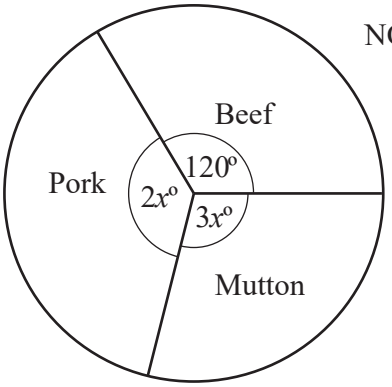
For π, use your calculator value or 3.142.
The total of the marks for this paper is 120.

For Examiner's Use	
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Total	

This document consists of **19** printed pages and **1** blank page.

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1 **(a)** At a conference, delegates were asked to choose one type of meat for their lunch.
The pie chart represents the number of delegates who chose the different types of meat.



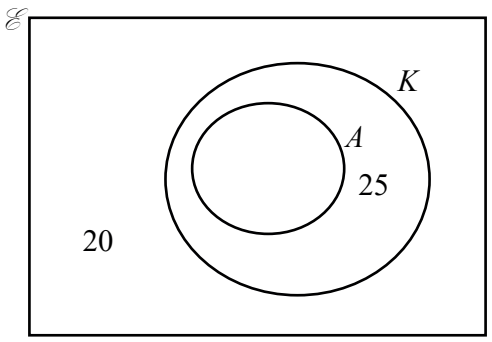
Find the percentage of delegates that did not choose pork.

Answer (a) .....% [3]

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(b) A group of 60 people were asked what type of music they liked between Kwaito (K) and Amapiyano (A).

The Venn diagram shows the results.



Find the fraction of people that

(i) did not like Kwaito music,

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

(ii) liked Amapiyano music.

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

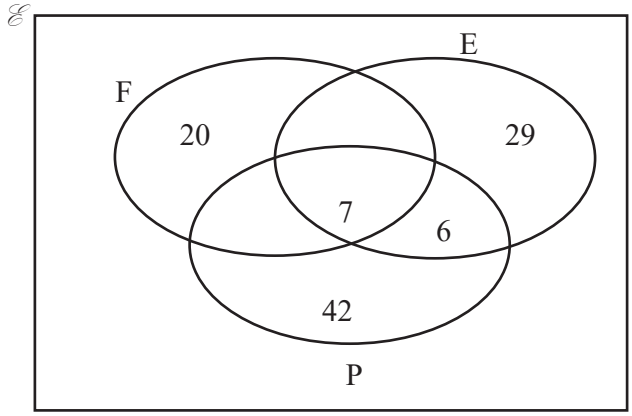
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[Turn over

For Examiner's Use

2 In a group of tourists
53 could speak English, (E)
12 could speak French, (F) and Portuguese, (P)
50 could speak neither French nor English.

(a) Complete the Venn diagram to show the number of tourists in each region.



[3]

(b) Find the number of tourists who could speak exactly

(i) one of the three languages,

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

(ii) two of the languages.

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

(c) Find.

(i) $n(P)$

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

(ii) $n((F \cup P)' \cap E)$

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

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3 **(a)** Solve.

(i) $2x = 5x^2$

Answer (a)(i) $x =$ ..... or $x =$ ..... [3]

(ii) $2x - 3 < 17$

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

(b) Rearrange this equation to make r the subject.

$$3r = 7 - \frac{r - w}{5}.$$

Answer (b) ..... [3]

(c) Siphiwe bought x packets of sweets and y packets of nuts.
She paid E2 for each packet of sweets and E3 for each packet of nuts.
She paid a total of E54.
She sold each packet of sweets for E2.50 and each packet of nuts for E3.50.
She got a total of E65.

Form a pair of simultaneous equations and solve them to find the values of x and y.

Answer (c) $x =$ ..... $y =$ ..... [5]

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[Turn over

4 $f(t) = 5t - 19$ and $g(t) = 2t + 3$.

(a) Evaluate $f^{-1}g(3)$,

Answer (a) ..... [3]

(b) Find $g(\frac{1}{2}t - 6)$.

Answer (b) ..... [3]

(c) Hence or otherwise solve $g(\frac{1}{2}t^2 - 6) = 0$.

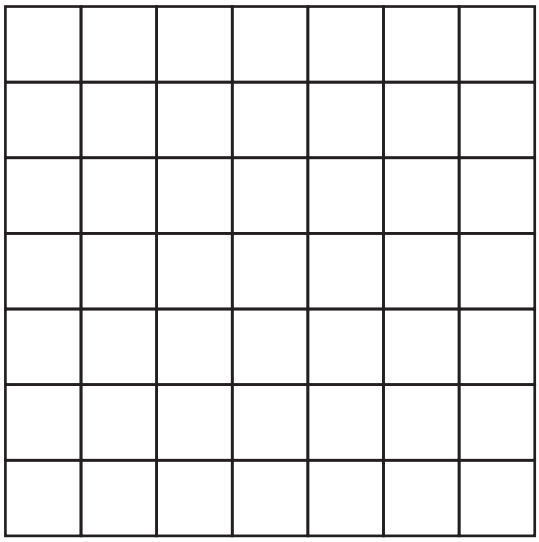
Answer (c) $t =$ ..... [2]

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5 Bag A contains 5 identical cards with letters from the word BLACK.
Bag B contains 5 identical cards with letters from the word GREEN.

A card is drawn at random from each bag.

(a) Draw a possibility space diagram to show the possible outcomes.



[2]

(b) Find the probability that

(i) both cards show vowels,

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

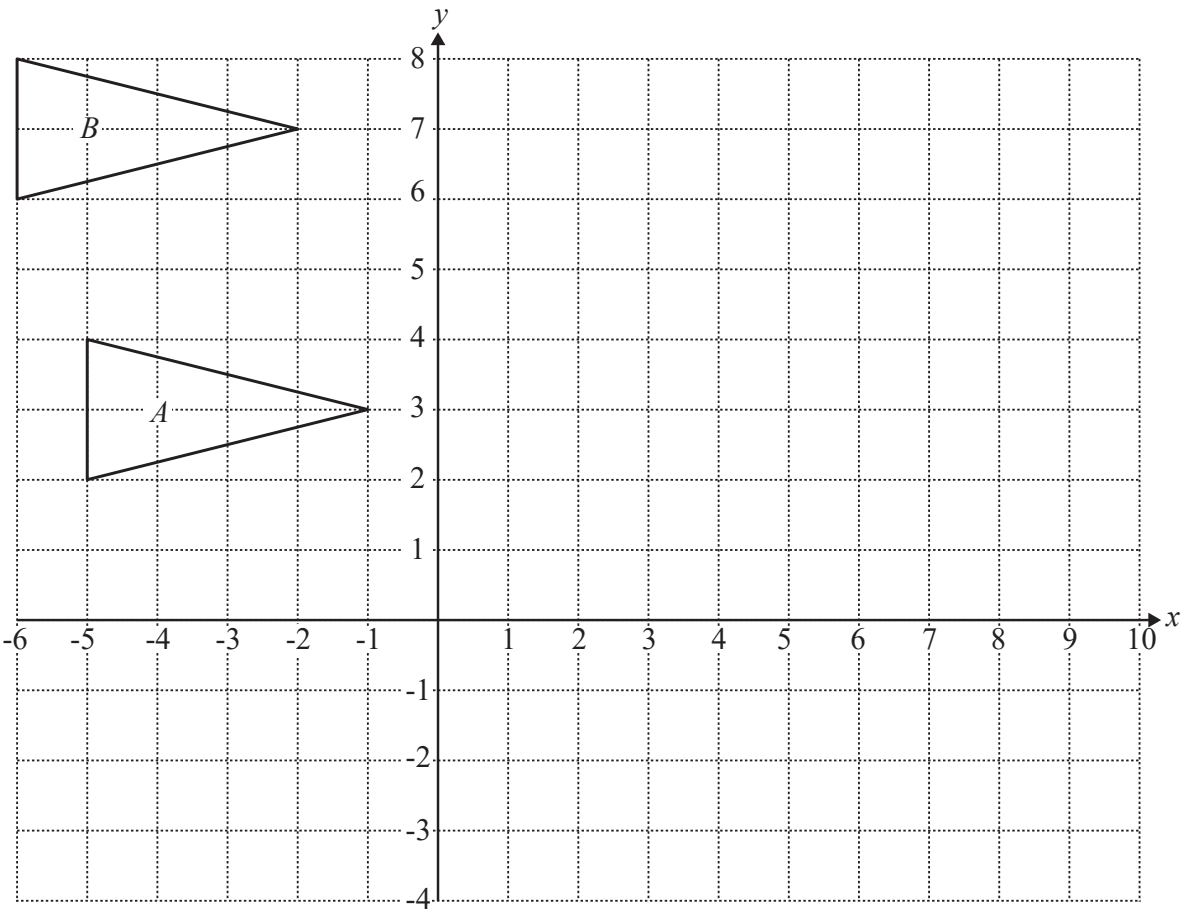
(ii) the outcomes are L and a consonant.

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

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6 M is a transformation represented by the matrix $\begin{pmatrix} 1 & 0 \\ 0 & -1 \end{pmatrix}$

R is a rotation about (0, 0) with angle 90º clockwise.
E is an enlargement with centre (0, 0) and scale factor −2.



(a) Draw the images

(i) R(*A*) [3]

(ii) EM(*A*) [5]

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(b) Describe fully the single transformation that maps triangle A onto triangle B.

Answer (b)

.....

..... [2]

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7 T varies inversely as the square of V.
The table shows some corresponding values of V and T.

V	2	4	*b*	8
T	250	*a*	40	15.625

(a) Form an equation expressing T in terms of V.

Answer (a) T = ... [3]

(b) Find the values of *a* and *b*.

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

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8 **(a)** The mass of an empty container is 275 g.
The mass of the container when it has a liquid in it is 400 g.
The density of the liquid is 3.05 g/cm^3.

Calculate the volume of the liquid in the container.

Answer (a) ..... cm^3 [3]

(b) At 0900 hrs Boat *F* and Boat *G* are 10 km apart.
The two boats are moving towards each other in a straight line.

Boat *F* travels at a constant speed of 72 km/h.
Boat *G* travels at a constant speed of 54 km/h.

The boats pass each other after *t* hours.
Boat *F* has travelled *x* km when the boats pass each other.

(i) Express *t* in terms of *x* for boat *F*,

Answer (b)(i) *t* = ... [1]

(ii) Express *t* in terms of *x* for boat *G*.

Answer (b)(ii) *t* = ... [2]

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(iii) Hence find the values of x and t.

Answer (b)(iii) x = ..., t = ... [4]

9 Simplify.

(a) $5(7 - x) + 3(x + 4)$

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

(b) $\dfrac{x(x+4)+x-6}{2x+12}$

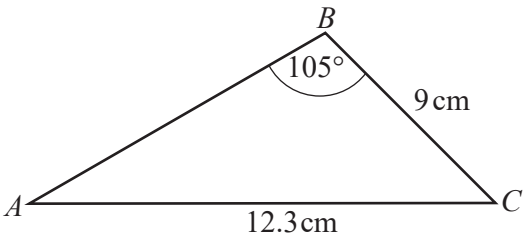
Answer (b) ..... [4]

(c) $\dfrac{1-x}{x+3} \div \dfrac{2}{3x+9}$

Answer (c) ..... [3]

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10



NOT TO SCALE

Calculate

(a) the area of the triangle,

Answer (a) ..... cm^2 [5]

(b) the length of AB.

Answer (b) ..... cm [3]

11 The circumference of the base of a cone is 6π cm.
The height of the cone is 3.7 cm.

[volume of a cone $= \frac{1}{3}\pi r^2 h$]

Calculate the

(a) volume of the cone,

Answer (a) ..... cm^3 [3]

(b) slant height of the cone.

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

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12 **(a)** The volume of a sphere is $904.8\,cm^3$.

[volume of a sphere = $\frac{4}{3}\pi r^3$, surface area of a sphere = $4\pi r^2$]

Calculate the surface area of the sphere.

Answer (a) ..... cm^2 [4]

(b) Solids G and H are similar.
The volume of solid G is $424\,cm^3$.

The height of solid G is $2x$ cm.
The height of solid H is $3x$ cm.

Calculate the volume of solid H.

Answer (b) ..... cm^3 [3]

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[Turn over

13 **(a)** The equation of a curve is $y = x^3 - 2x^2 - 9x$.

(i) Find the equation of the tangent of the curve at (2, –18).

Answer (a) ..... [4]

(ii) Find the x coordinates of the turning points.

Answer (b) $x =$ ..... $x =$ ..... [5]

(b) For a curve, $\frac{dy}{dx} = 27 - 3x^2$.

The points $A(3, 54)$ and $B(–3, –54)$ are the turning points of the curve.

Determine whether each point is minimum or maximum.
You must show all your working

Answer A is .....

B is ..... [3]

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14 Three letters are picked at random from letters of the word ATTENDANT.
The three letters are placed next to each other in the order they are drawn.

Find the probability that

(a) the letters spell the word TEA,

Answer (a)..... [3]

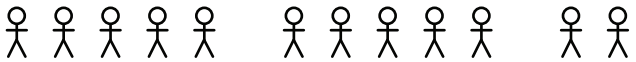
(b) none of the letters is a T.

Answer (b)..... [3]

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[Turn over

15 The diagram represents the number of people who won prize money at a fundraising event.

Prize Money (E)	Number of people
$10 < x \leq 20$	
$20 < x \leq 40$	
$40 < x \leq 70$	
$70 < x \leq 85$	
$85 < x \leq 100$	

 = 5 people

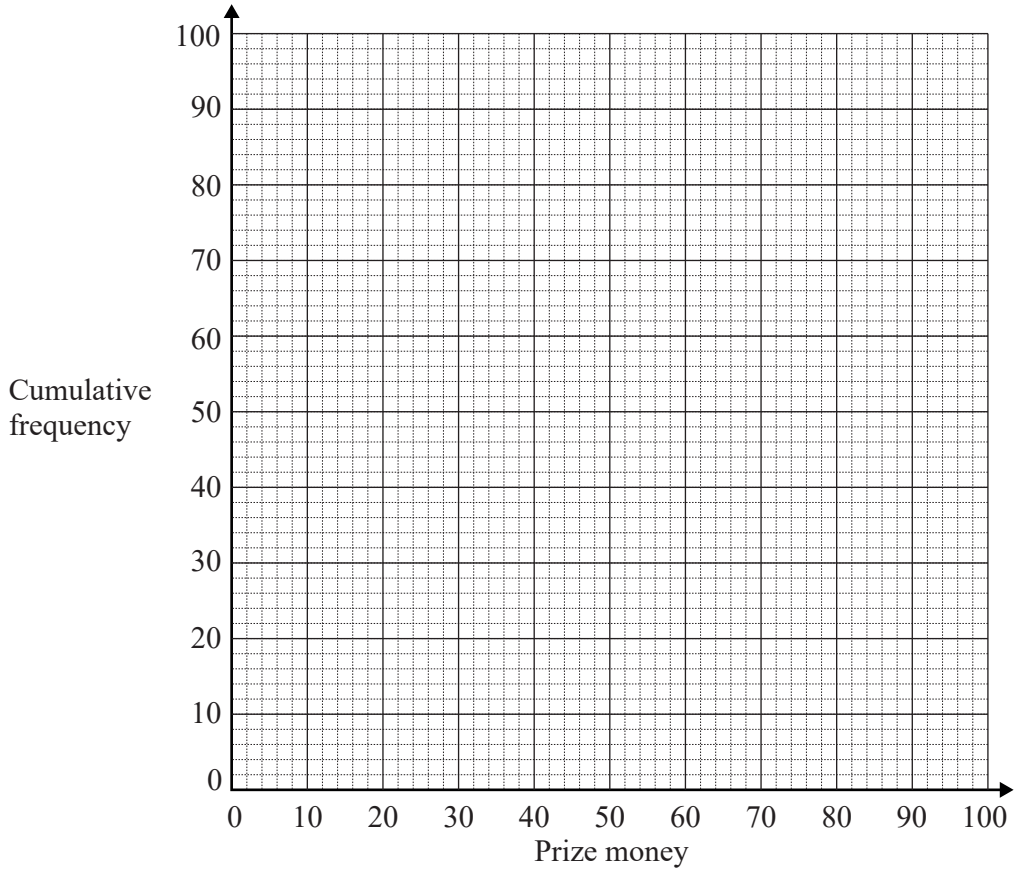
(a) Complete the cumulative frequency table.

Prize Money (E)	Cumulative frequency
≤ 20	
≤ 40	20
≤ 70	
≤ 85	95
≤ 100	100

[2]

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(b) Draw a cumulative frequency curve.



[3]

(c) Find an estimate of the

(i) median,

Answer (c)(i) E..... [1]

(ii) intequartile range.

Answer (c)(ii) E..... [2]

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