



EXAMINATIONS COUNCIL OF SWAZILAND
 in collaboration with
 UNIVERSITY OF CAMBRIDGE LOCAL EXAMINATIONS SYNDICATE
 Swaziland General Certificate of Secondary Education

CANDIDATE
NAME

CENTRE
NUMBER

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CANDIDATE
NUMBER

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MATHEMATICS

6880/01

Paper 1 Non-Calculator Short-Answer Questions (Core and Extended)

October/November 2012

1 hour 30 minutes

Candidates answer on the Question Paper.

Additional Materials: Geometrical instruments
Tracing paper (optional)

READ THESE INSTRUCTIONS FIRST

Write your Centre number, candidate number and name on all the work you hand in.
 Write in dark blue or black pen in the spaces provided on the Question Paper.
 You may use a pencil for any diagrams or graphs.
 Do not use staples, paper clips, highlighters, glue or correction fluid.
 You are **not** allowed to use a calculator.

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.

The total of the marks for this paper is 60.
 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 3.14.

For Examiner's Use	
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This document consists of **11** printed pages and **1** blank page.

1 List all the factors of 12.

Answer [2]

2 Work out

(a) $12.2 + 1.22$,

Answer (a) [1]

(b) $\frac{2}{3} \div \frac{5}{12}$.

Answer (b) [2]

3 (a) Find $\sqrt[3]{27}$.

Answer (a) [1]

(b) Simplify $4b^2 \times 5b^6$.

Answer (b) [2]

4 (a) There are 24 hours in a day.
Lungile works 6 hours each day.

(i) Write the time Lungile works in a day as a fraction of a day.
Give your answer in its simplest form.

Answer (a)(i) [2]

(ii) Express the time Lungile works in a day as a percentage of a day.

Answer (a)(ii)% [2]

(b) Express 20% as a fraction in its simplest form.

Answer (b) [2]

5 14 793 people watched a soccer game.

(a) Express the number of people correct to 2 significant figures.

Answer (a) [1]

(b) Express your answer to part (a) in standard form.

Answer (b) [1]

6 Given that $a = 2$ and $b = -3$, find

(a) b^a ,

Answer (a) [1]

(b) a^b .

Answer (b) [1]

7 List all the subsets of $\{a, b\}$.

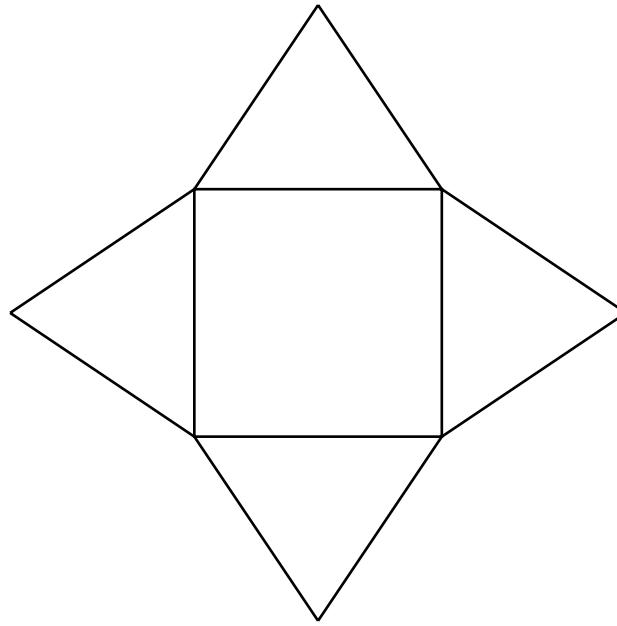
Answer [2]

8 Solve the simultaneous equations

$$\begin{aligned}y &= 3x \\ 3x - 2y &= -6.\end{aligned}$$

Answer $x =$ $y =$ [3]

- 9 The figure below is formed by a square and four identical isosceles triangles. The figure represents the net of a solid.



- (a) Write down the name of the solid.

Answer (a) [1]

- (b) Draw all the lines of symmetry on the diagram. [2]

- 10 Rearrange this formula to make T the subject.

$$x = 2T + \frac{c}{3}$$

Answer [3]

11 Solve

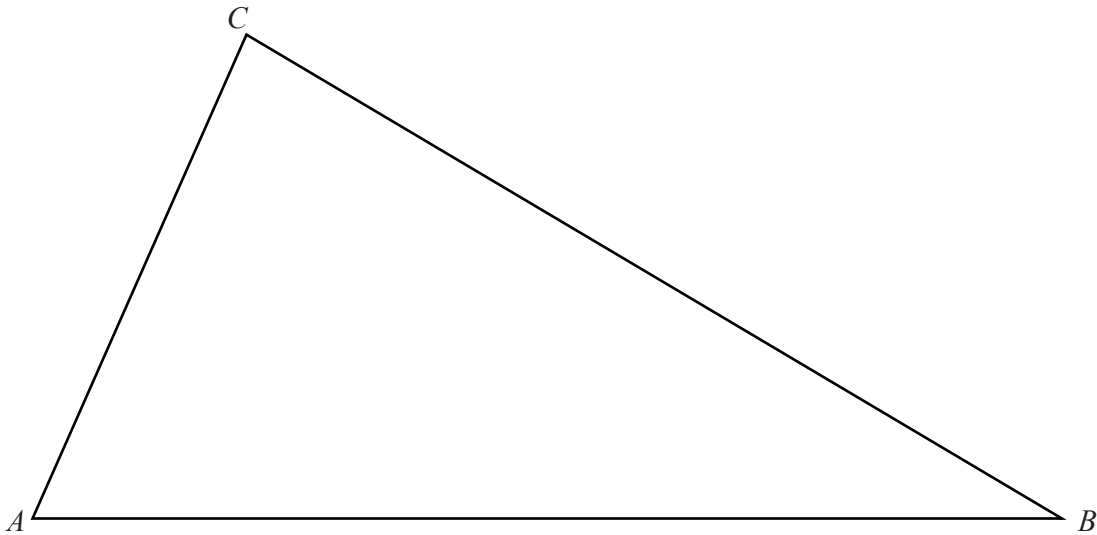
(a) $3x - 5 = 7$,

Answer (a) $x = \dots\dots\dots$ [2]

(b) $\frac{x}{2} + 3 < 1$.

Answer (b) $\dots\dots\dots$ [2]

12 ABC is a triangle.



(a) Draw the locus of points 5 cm from B and inside the triangle. [2]

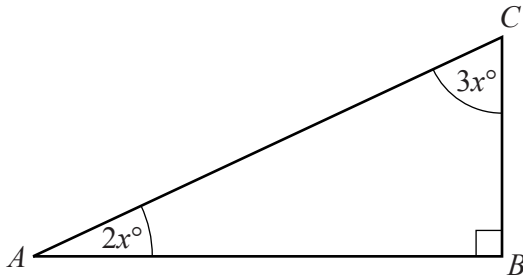
(b) Draw the locus of points 3 cm from AB and inside the triangle. [1]

13 For the function $f: x \mapsto 2x - 1$,

find the output set for the input $\{-1, 0, 2\}$.

Answer $\dots\dots\dots$ [2]

- 14 ABC is a right angled triangle.
 $\hat{A}BC = 90^\circ$, $\hat{A}CB = 3x^\circ$ and $\hat{C}AB = 2x^\circ$.



NOT TO SCALE

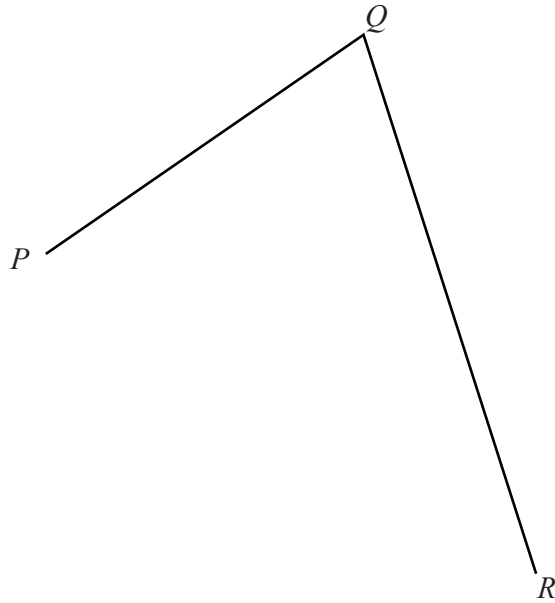
Find the size of $\hat{C}AB$.

Answer $^\circ$ [3]

- 15 The probability that it will rain on a particular day is $\frac{2}{5}$.
 What is the probability that it will not rain on that day?

Answer [1]

16



Construct the bisector of angle PQR .

[2]

17 A bus covers a distance of 140 km in 1 hour 45 minutes.

(a) Show that 1 hour 45 minutes is $\frac{7}{4}$ hours.

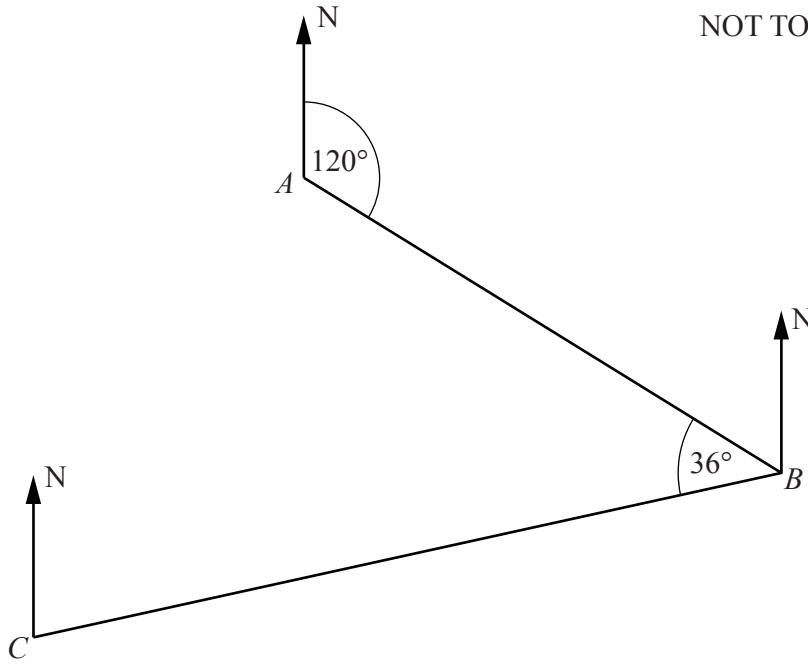
Answer (a)
..... [1]

(b) Calculate the average speed of the bus.

Answer (b) km/h [2]

18

NOT TO SCALE



Calculate the bearing of

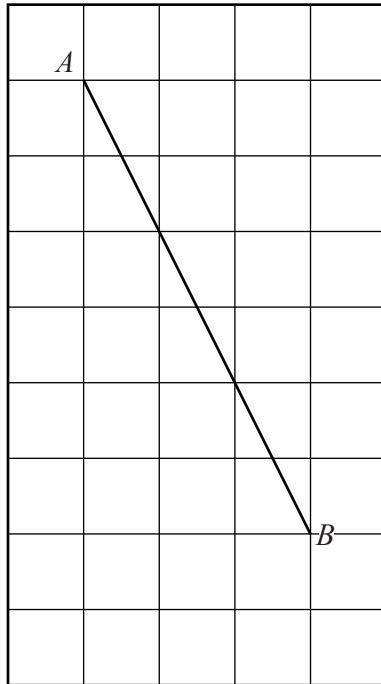
(a) C from B,

Answer (a)° [2]

(b) B from C.

Answer (b)° [2]

19 The diagram below shows the points A and B .



(a) Express \vec{AB} as a column vector.

Answer (a) [1]

(b) $\vec{AC} = \frac{1}{3} \vec{AB}$.

Mark and label the point C on the diagram. [1]

20 Arrange the following in order of size, starting with the smallest.

$(0.2)^2$ $(0.2)^3$ 0.1

Answer,, [2]

21 Here is a list of numbers.

2 4 7 2 13 2 4 10 1

Find

(a) the range,

Answer (a) [1]

(b) the mode,

Answer (b) [1]

(c) the median,

Answer (c) [1]

(d) the mean.

Answer (d) [2]
