Candidate Name	School Name

JUNIOR SECONDARY SEMI − EXTERNAL EXAMINATION

MATHEMATICS   **2200/2**

PAPER 2 (Structured Questions)   2 hours

Marks 85   **2019**

Additional Material: Non-programmable calculator
                                   Ruler

INSTRUCTIONS AND INFORMATION TO CANDIDATES

- Write your Candidate Name and School Name in the spaces on top of this page.
- Write your answers on the Question Paper.
- **All working must be shown clearly.**
- Write in dark blue or black pen.
- You may use a soft pencil for any rough work, diagrams or graphs.
- Do not use correction fluid.
- Do not write in the margin *For Examiner's Use*.

- Answer **all** questions.

- You may use a non-programmable calculator.
- If an answer is not exact, it should be rounded to **one** decimal place and for money give your answer to **two** decimal places.
- The number of marks is given in brackets [ ] at the end of each question or part question.

For Examiner's Use	
Marker	
Checker	

This document consists of **11** printed pages.

Republic of Namibia
MINISTRY OF EDUCATION, ARTS AND CULTURE

1 (a) Work out $(625)^{\frac{3}{4}}$.

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

(b) Complete the table of square numbers and cube numbers.

number	square number	cube number
4	16	64
....	144	....
−14	....	−2744

[3]

(c) Write 864 as a product of its prime factors.

Answer **(c)** .... **[2]**

(d) Write down all the factors of 15.

Answer **(d)** .... **[1]**

(e) Simplify the ratio,

34 : 30

Answer **(e)** .... **[1]**

2 29.94 + 35.46 ÷ 6.86

(a) In the spaces provided, write each number in the calculation above, correct to the nearest whole number.

.... + ... ÷ .... [2]

(b) Use your answer in part **(a)** to work out an estimate for the answer.

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

(c) Use your calculator to find the actual answer to the original calculation. Write your answer correct to two decimal places.

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

3 A pack of biscuits contains three types of chocolate biscuits.

$\frac{9}{20}$ of the biscuits are plain chocolate,

30% are milk chocolate and

25% are white chocolate.

(a) Find the percentage of biscuits that are plain chocolate.

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

(b) Write 30% as a common fraction in its simplest form.

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

(c) There are 60 biscuits in a pack.
Calculate the number of white chocolate biscuits.

Answer **(c)** .... [2]

[Turn over

4   Juvani runs 7 km in 2.5 hour.

Calculate his average speed in kilometers per hour.

Answer.................................km/h   [2]

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5   **(a)** Factorise completely

$x^2 + 5x - 3x - 15$.

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

(b) Expand and simplify

$(2x - 3)(3x + 5)$.

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

(c) Write down the inequality represented on the number line below.
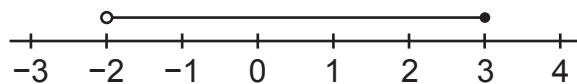
Answer **(c)** ....   [2]

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6 The first four terms of a number sequence are 10, 14, 18, 22, ...

(a) Write down the next term of the sequence.

Answer (a) .... [1]

(b) Find the nth term of the sequence.

Answer (b) .... [2]

(c) Write down the 10th term of the sequence.

Answer (c) .... [1]

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7 (a) Identify the like terms in the following.

$3y^2$, $20y^3$, $6y$, $-7y^2$

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

(b) Simplify $(7w^4z^3)^2$.

Answer (b) .... [2]

(c) Solve for g

$5g - 3 = 3g + 7$.

Answer (c) g = ... [2]

(d) In the expression below,

$$4w^2 - 3w + 6$$

write down

(i) the coefficient of w,

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

(ii) the constant value.
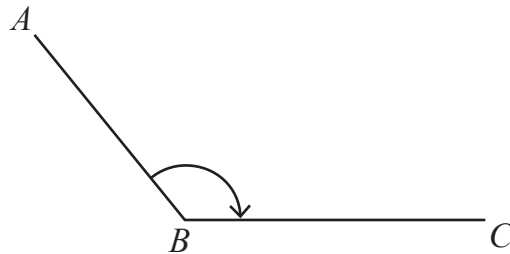
Answer (d) (ii) .... [1]

8 (a) Markus invests N$ 2 500 for 3 years at a rate of 8% per year compound interest.
Calculate the total amount Markus received after 3 years.

Answer **(a)** N$.............................. [3]

(b) If £ 1 = N$ 17.80; change 900 pounds (£) into Namibian dollars.

Answer **(b)** N$.............................. [2]

9 (a)

Name the type of angle indicated at B.

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

(b) Measure line xy, give your answer in cm.

x _____ y
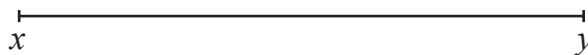
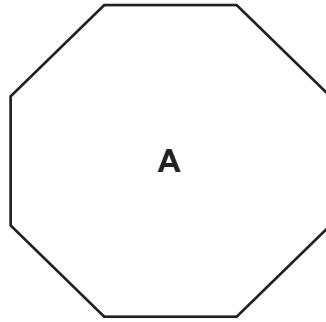Answer **(b)** ....cm [1]

(c) Draw a circle with the radius of 3 cm around the marked centre O.

$O_\bullet$

[1]

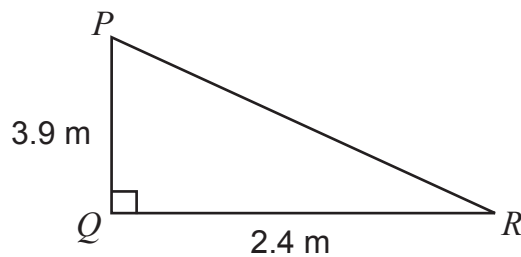**10** **(a)** The diagram shows polygon **A**.

NOT TO
SCALE

A

(i) Write down the geometrical name of polygon **A**.

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

(ii) Calculate the sum of interior angles of polygon **A**.

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

(b) PQR is a right-angled triangle, PQ = 3.9 m and QR = 2.4 m.
Calculate the length of PR.

P

NOT TO
SCALE

3.9 m

Q

2.4 m

R

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

[Turn over

11
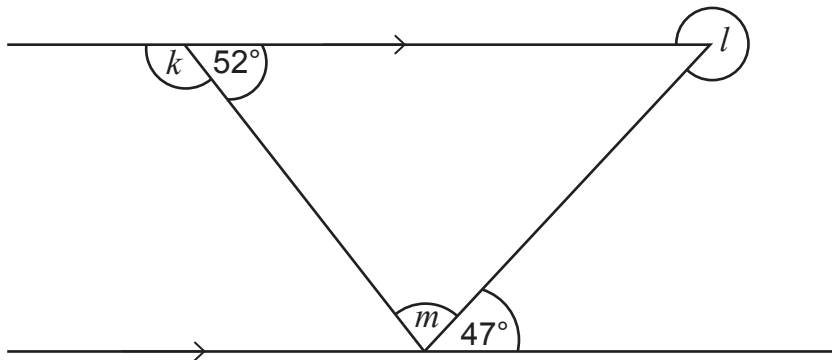
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(a) Find the value of angle k.

Answer **(a)** k = ...° [1]

(b) Calculate the value of angle l.

Answer **(b)** l = ...° [2]

(c) Calculate the value of angle m.

Answer **(c)** m = ...° [2]

12
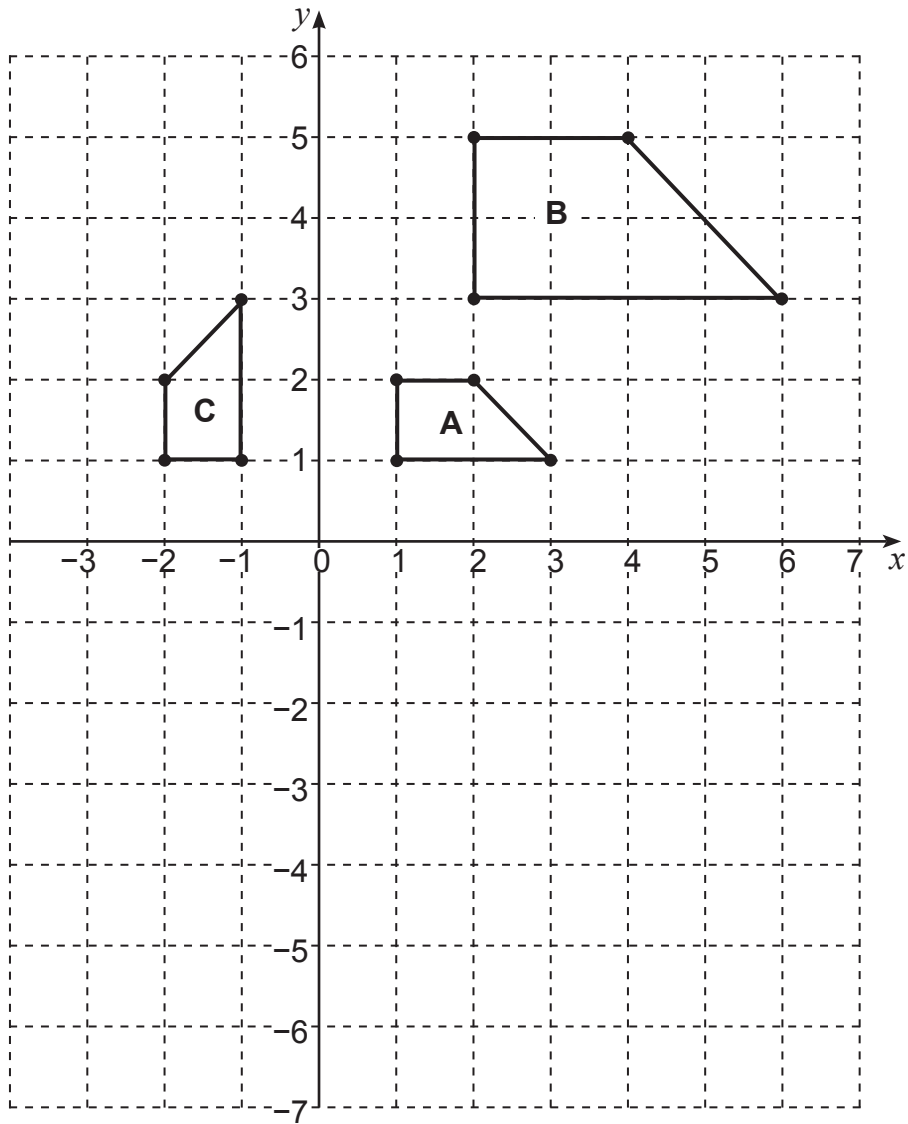
(a) Describe fully the single transformation that maps

(i) shape **A** onto **B**,

Answer **(a) (i)** ....

....

.... [3]

(ii) shape **A** onto **C**.

Answer **(a) (ii)** ....

....

.... [3]

(b) Reflect shape **A** in the line $y = -2$ and label the image **D**. [2]

[Turn over

13 Line (L) is drawn on the grid.

(L)
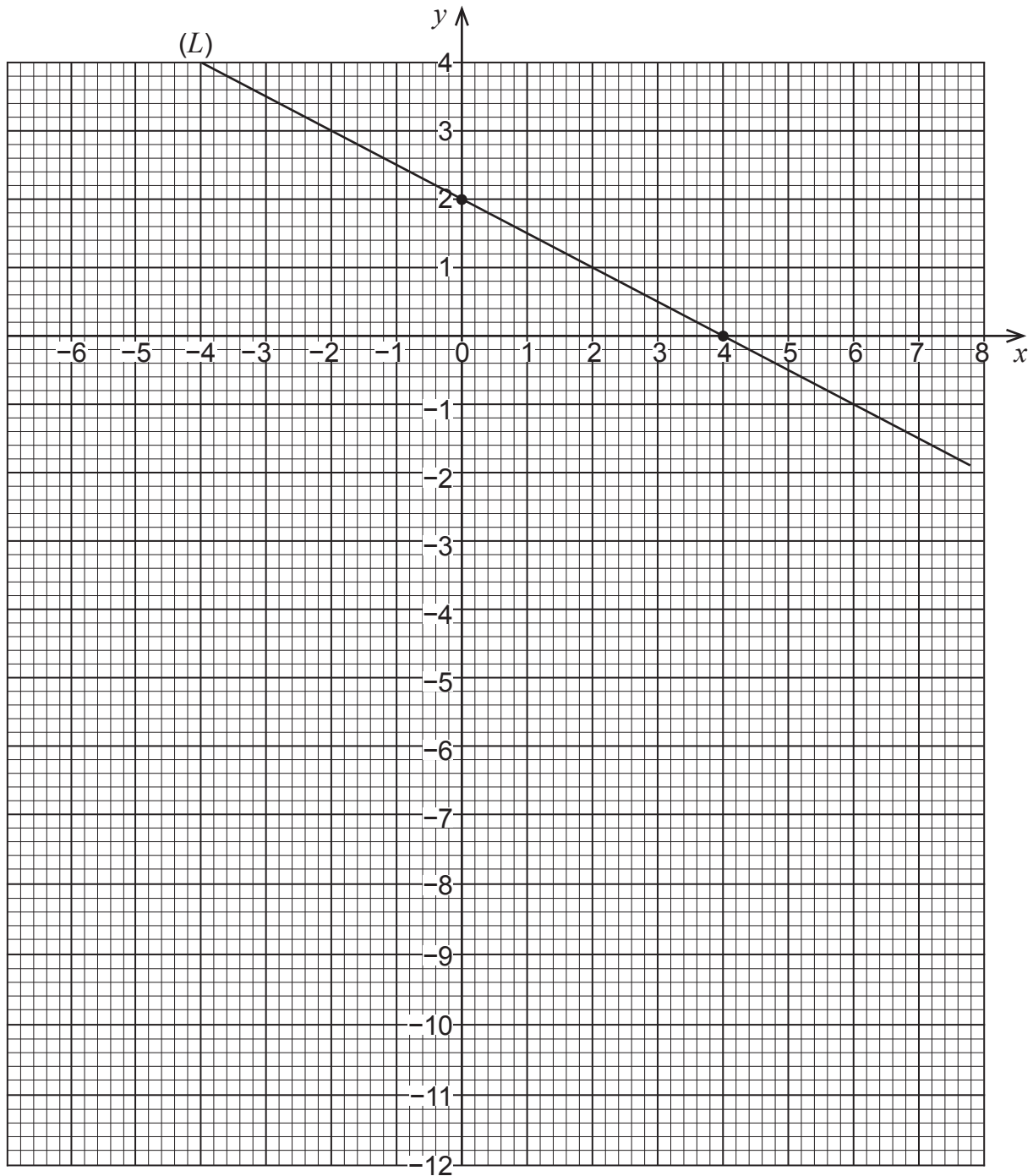
(a) Write down the y-intercept of line (L).

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

(b) Calculate the gradient of line (L).

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

(c) Complete the table of $y = 2x - 8$.

x	−2	0	6
y		−8	4

[1]

(d) On the same grid, draw the graph of $y = 2x - 8$. [2]

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14 The marks of 18 learners in a Mathematics test are listed below.

11, 9, 12, 8, 14, 14, 17, 14, 18,

14, 9, 14, 15, 12, 14, 9, 11, 10.

(a) Work out the range of the marks.

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

(b) Determine the mode mark.

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

(c) Find the median mark.

Answer **(c)** .... [2]

(d) Calculate the mean mark of the learners in the Mathematics test.

Answer **(d)** .... [2]