MATHEMATICS JS LEVEL

SPECIMEN PAPERS 1 AND 2 (Grade 8 & 9)

MARK SCHEMES FOR PAPER 1 AND 2 (Grade 8 & 9)

GRADES 8 - 9

THESE PAPERS AND MARK SCHEMES SERVE TO EXEMPLIFY THE SPECIFICATIONS IN THE REVISED JS MATHEMATICS SYLLABUS

2018
TABLE OF CONTENT

1. Grade 8 Paper 1 specimen paper
2. Grade 8 Paper 1 Mark scheme
3. Grade 8 Paper 2 specimen paper
4. Grade 8 Paper 2 Mark scheme
5. Grade 9 Paper 1 specimen paper
6. Grade 9 Paper 1 Mark scheme
7. Grade 9 Paper 2 specimen paper
8. Grade 9 Paper 2 Mark scheme
Mark Scheme Notes

Marks are of the following six types:

M – Method mark, awarded for a valid method applied to the problem.
   - Method marks are not lost for numerical errors, algebraic slips or errors in units. However, it is not usually sufficient for a candidate just to indicate an intention of using some method or just to quote a formula; the formula or idea must be applied to the specific problem in hand, e.g. by substituting the relevant quantities into the formula.
   - Correct application of a formula without the formula being quoted obviously earns the M mark and in some cases an M mark can be implied from a correct answer.
   - M2 means that the candidate’s method qualifies two marks.

A – Accuracy mark, awarded for a correct answer or intermediate step correctly obtained. Accuracy marks cannot be given unless the associated method mark is earned (or implied).

B – Mark for a correct result or statement independent of method marks.

c.a.o – correct answer only

F.T – follow through mark allowed for work correctly following on from previously incorrect results.

SC – a special case where a mark can be given for a specific wrong solution, or a case where some standard marking practice is to be varied in the light of a particular circumstance.
NAMIBIA JUNIOR SECONDARY EXAMINATION

MATHEMATICS
GRADE 8 PAPER 1 (Short Questions) 1 Hour 30 Minutes
Marks 45

Additional Materials: Geometrical instruments
Tracing paper (optional)

ELECTRONIC CALCULATORS MUST NOT BE USED IN THIS PAPER

- Candidates answer on the Question Paper in the spaces provided.
- Write your Name, School and Grade in the spaces at the top of this page.
- Answer all the questions. All working must be shown clearly.
- Write in dark blue or black pen.
- You are not allowed to use a calculator for this paper.
- Do not use correction fluid.
- Do not write in the margin For Examiner’s Use.
- If the 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 available is shown in brackets [ ] after each question or part question.
1. Calculate $9 + 5 \times 2$. 
   Answer: ……………………… [1]

2. From the list of numbers 1, 6, 29, 42, write down:
   (a) a prime number,
   Answer (a)…………………… [1]
   (b) a square number which is also a cube number.
   Answer (b)…………………… [1]

3. Write $\frac{25}{100}$ as a decimal.
   Answer: ……………………… [1]

4. Write $\frac{6}{24}$ in its simplest form
   Answer: ……………………… [1]

5. Round 33.495 to one decimal place.
   Answer: ……………………… [1]

6. Simplify the ratio 3kg : 500g.
   Answer: ……………………… [2]

7. Maria scored 12 out of 30 in a test. Work out her percentage.
   Answer: ……………………… %[2]
8. Use >, < or = to make each statement true.

(a) \( \frac{3}{4} \) ........... 0.25 [1]

(b) -7 ........... (-14+7) [1]

(c) \( \sqrt{36} \) ............... \( 3^2 \) [1]

9. Write down the value of A indicated on the number line.

Answer: ................... [1]

10. Given the expression \( 3x^4 + 5x^3 - x^2 - 8x + 7 \);

(a) determine the number of terms in the expression,

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

(b) write down the coefficient of \( x^2 \).

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

11. Identify a constant in \( 5x + y + 6 \).

Answer: ..................... [1]

12. Given that \( x = -3 \) and \( y = 6 \), find the value of \( xy \).

Answer: ..................... [1]

13. Solve the equation \( x + 5 = 14 \).

Answer: ..................... [1]
14. Simplify $7y - 3z + 2y - 4z$.

Answer: ………………………. [2]

15. Multiply out $3(4x - 5y)$.

Answer: ………………………. [2]

16. Tom buys a cellphone for N$ 200.00 and sells it for N$ 150.00.

(a) Did he make a profit or loss?

Answer (a) ……………………. [1]

(b) Calculate the amount of profit or loss he make.

Answer (b)N$ …………………. [1]

(c) Calculate the percentage profit or loss

Answer (c) ……………………% [2]
17. Samabi invests N$ 10 000 at 5% simple interest per year. Calculate the interest earned after 3 years.

Answer: ……………………… [2]

18. ABCD is a quadrilateral.

Calculate the perimeter of the shape

Answer: ……………… cm [2]

19. Calculate the area of the triangle.

Answer: ………………… cm² [2]
20. Calculate the volume of the cuboid.

![Cuboid Diagram]

Answer: …………………. cm³ [2]

21. Measure and write down the size of angle of $x$.

Answer: $x = ………………….°$ [1]

22. Write down the special name for angle $y$.

Answer: ………………………… [1]
23. Calculate the value of angle $a$.

Answer: $a = \ldots\ldots\ldots\ldots^\circ$ [2]

24. Describe fully the single transformation that map triangle A onto triangle B in the diagram.

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………………………………………………………………………………………………………………
………………………………………………………………………………………………………………
……………………………………………………………………………………………………………[2]
25. (a) Plot point C with coordinates (-2, 2) on grid above. [1]
(b) Write down the equation of line AB

Answer: ………………………………………… [1]
26. The pie chart shows the favourite fruits of learners in a class.

a) Write down the least favorite fruit.

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

b) Write down the fraction of the pie chart representing apples.

Answer (b) ........................................... [1]
<table>
<thead>
<tr>
<th>QUESTION</th>
<th>ANSWER</th>
<th>NARRATION</th>
<th>MARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>19</td>
<td>cao</td>
<td>1</td>
</tr>
<tr>
<td>2 (a)</td>
<td>29</td>
<td>cao</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>(b) 1</td>
<td>cao</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>0.25</td>
<td>cao</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>(\frac{1}{4})</td>
<td>cao</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>33.5</td>
<td>cao</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>6:1</td>
<td>M1 for 3000:500 o.e.</td>
<td>2</td>
</tr>
<tr>
<td>7</td>
<td>40</td>
<td>M1 for (\frac{12}{30} \times 100) or o.e.</td>
<td>2</td>
</tr>
<tr>
<td>8 (a)</td>
<td>&gt;</td>
<td>cao</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>(b) =</td>
<td>cao</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>(c) &lt;</td>
<td>cao</td>
<td>1</td>
</tr>
<tr>
<td>9</td>
<td>-1</td>
<td>cao</td>
<td>1</td>
</tr>
<tr>
<td>10 (a)</td>
<td>5</td>
<td>cao</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>(b) -1</td>
<td>cao</td>
<td>1</td>
</tr>
<tr>
<td>11</td>
<td>6</td>
<td>cao</td>
<td>1</td>
</tr>
<tr>
<td>12</td>
<td>-18</td>
<td>cao</td>
<td>1</td>
</tr>
<tr>
<td>13</td>
<td>9</td>
<td>cao</td>
<td>1</td>
</tr>
<tr>
<td>14</td>
<td>(9y-7z)</td>
<td>B1 for 9y, B1 for -7z</td>
<td>2</td>
</tr>
<tr>
<td>15</td>
<td>(12x-15y)</td>
<td>B1 for 12x, B1 for -15y</td>
<td>2</td>
</tr>
<tr>
<td>16 (a)</td>
<td>loss</td>
<td>cao</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>(b) 50</td>
<td>cao</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>(c) 25</td>
<td>M1 (\frac{50}{200} \times 100) or o.e.</td>
<td>2</td>
</tr>
<tr>
<td>17</td>
<td>1500</td>
<td>M1 (\frac{10000 \times 5 \times 3}{100}) or o.e</td>
<td>2</td>
</tr>
<tr>
<td>18</td>
<td>18</td>
<td>M1 (2(5) + 2(4)) or o.e.</td>
<td>2</td>
</tr>
<tr>
<td>19</td>
<td>6</td>
<td>M1 (\frac{1}{2}(4 \times 3)) or o.e.</td>
<td>2</td>
</tr>
<tr>
<td>20</td>
<td>40</td>
<td>M1 (4(5 \times 3)) or o.e.</td>
<td>2</td>
</tr>
<tr>
<td>21</td>
<td>134 (± 1)</td>
<td>cao</td>
<td>1</td>
</tr>
<tr>
<td>22</td>
<td>Right angle</td>
<td>cao</td>
<td>1</td>
</tr>
<tr>
<td>23</td>
<td>160</td>
<td>M1 180 -20 or 70 + 90</td>
<td>2</td>
</tr>
<tr>
<td>24</td>
<td>Reflection Line M</td>
<td>B1 reflection B1 Line M</td>
<td>2</td>
</tr>
<tr>
<td>25 (a)</td>
<td>Correct position</td>
<td>cao</td>
<td>1</td>
</tr>
</tbody>
</table>
(b) \( y = 3 \)  
26 (a) grapes  
(b) \( \frac{90^\circ}{360^\circ} \) or o.e.

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(b)</td>
<td>( y = 3 )</td>
<td>cao</td>
</tr>
<tr>
<td>26 (a)</td>
<td>grapes</td>
<td>cao</td>
</tr>
<tr>
<td>(b)</td>
<td>( \frac{90^\circ}{360^\circ} ) or o.e.</td>
<td>cao</td>
</tr>
</tbody>
</table>

**TOTAL MARKS** 45
Candidate Name:___________________________________________________________
School: __________________________________________ Grade: ______________

NAMIBIA JUNIOR SECONDARY EXAMINATION

MATHEMATICS
GRADE 8 PAPER 2 (Structured Questions) 2 Hours
Marks 85 2017

Additional Materials: Geometrical instruments
Tracing paper (optional)
Non – programmable calculator

- Candidates answer on the Question Paper in the spaces provided.
- Write your Name, School and Grade in the spaces at the top of this page.
- Answer all the questions. All working must be shown clearly.
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- Do not use correction fluid.
- Do not write in the margin For Examiner’s Use.
- If the 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 available is shown in brackets [ ] after each question or part question.

For Examiner’s Use

Marker
Checker

This document consists of 15 printed pages.

Republic of Namibia
MINISTRY OF EDUCATION, ARTS AND CULTURE

Grade 8 & 9 Specimen Papers, NIED, 2018
1. From the list of numbers, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, write down:

(a) a factor of 40, Answer (a) .......................... [1]
(b) a multiple of 11, Answer (b) .......................... [1]
(c) a cube number, Answer (c) .......................... [1]
(d) LCM of 6 and 8, Answer (d) .......................... [1]

2. Write the following number in ascending order (smallest first)

4.5, \(\frac{5}{2}\), 3.142, \(\frac{3\frac{1}{2}}{2}\)


3. Find the highest common factor of 12 and 30

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

4. Write 225 as a product of its prime factors

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

5. Kevin and Katu are 20 and 24 years respectively.
Write down the ratio of their ages in its simplest form.

6. Complete the table

<table>
<thead>
<tr>
<th>Common fraction</th>
<th>Decimal fraction</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\frac{1}{2}$</td>
<td>(i) ...........</td>
<td>50%</td>
</tr>
<tr>
<td>(ii) ...........</td>
<td>0.75</td>
<td>75%</td>
</tr>
<tr>
<td>$\frac{1}{4}$</td>
<td>0.25</td>
<td>(iii) ...........</td>
</tr>
</tbody>
</table>

7. At the end of the month, the book shop sold 62% of 850 textbooks in stock. Calculate the number of textbooks sold.

8. Calculate:
   (a) $0.75 \times 0.2$

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

   (b) $\frac{3}{4} - \frac{1}{2}$, show all your working

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

   (c) $\frac{2}{5} \times \frac{4}{7}$, show all your working

   Answer (c) ........................................ [2]
9. Convert the following:
(a) 2.5 ha to m²
(b) 29 000 mm³ to cm³

Answer (a) ……………………………..m² [1]
Answer (b) ……………………………..cm³ [1]

10. Bianca bought a dress costing N$ 300.00 and later sold it for N$ 450.00.
   (a) Find the profit made by Bianca.
   (b) Calculate the percentage of profit made by Bianca.

Answer (a) N$………………………... [1]
Answer (b) ……………………………..% [2]
11. Molatseng invested N$ 5 000.00 at 8% simple interest per annum. Calculate the interest he will get after 18 months.

Answer: N$…………………… [3]

12. Mrs. Hausiku is buying a TV set costing N$ 6 500.00. She is given a discount of 10%.

(a) Calculate the discount amount offered,

Answer (a) N$ ………………… [2]

(b) How much will she pay for the TV set?

Answer (b) N$ ………………… [1]
13. Abed records the midnight temperature in the table from Mondays to Friday.

<table>
<thead>
<tr>
<th>Days</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature (°C)</td>
<td>4</td>
<td>-1</td>
<td>-3</td>
<td>2</td>
<td>6</td>
</tr>
</tbody>
</table>

(a) On which day was the lowest temperature recorded?

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

(b) On which day was the highest temperature recorded?

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

(c) Calculate the difference between the highest and lowest recorded temperature.

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

(d) Calculate the mean (average) midnight temperature for the week.

Answer (d) .......................... [2]
14. The expression $2y + 6$ is given.
(a) Write down;
   (i) the constant
       Answer (i) .......................... [1]
   (ii) the variable
       Answer (ii) .......................... [1]
(b) Find the value of $2y + 6$ when $y = -5$.

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

15. Simplify the following expressions
(a) $3xy + 4x - xy + 10x$

Answer (a) .......................... [2]
(b) $8x(2xy - 3)$

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

16. Solve the equation

$4x + 8 = 20$

Answer: $x =$ .......................... [2]
17. The cost of one pen is N$ 2.00

(a) Calculate the total cost of 15 pens

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

(b) Write down the formula for the total cost (C) for \( x \) pens.

Answer (b) \( C = \) ...................... [1]

18. The two number lines are drawn.

(a) On the number line draw the inequality that represents \( x < -1 \)

(b) Write down the inequality shown on the number line.
19. The following three shapes are given.

(a) Write down the diameter of shape B.

Answer (a) ………………………..cm [1]

(b) Calculate;
(i) the perimeter of shape A,

Answer (b)(i) ………………………..cm [2]

(ii) the area of shape B

Answer (b)(ii) ………………………..cm² [2]

(iii) the value of s in shape C

Answer (b)(iii)……………………….. cm [2]
20. (a) Calculate the size of angle $x$.

\[ \text{Answer (a)} \quad x = \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots ° \quad [2] \]

(b) Calculate the value of $y$.

\[ \text{Answer (b)} \quad y = \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots ° \quad [2] \]

(c) Find the value of angle $z$.

\[ \text{Answer (c)} \quad z = \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots ° \quad [2] \]
21. The diagram shows a bar graph for symbols obtained by learners in a grade 8 class.

(a) Determine the number of learners who scored symbol B.

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

(b) Which symbol was obtained by most of the learners?

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

(c) Calculate the total number of learners that wrote the test.

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

(d) For the learners to pass this test, he or she should obtain symbol A to D. Work out the number of learners who passed this test.

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

(e) Calculate the percentage of learners who scored A to D.

Answer (e) .......................% [2]
22. The grid is shown with point A.

(a) Write down the coordinates of point A.

Answer (a) (…… , …..) [2]

(b) Draw the line of $y = -2$ on the grid above.

[1]
23. The graph shows the temperature of water recorded at different time intervals.

(a) Find,

(i) the time when the temperature is 25 °C

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

(ii) the temperature after 6 minutes

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

(b) Work out the difference in temperature between 7 and 2 minutes.

Answer (b) ................................. °C [2]
24. Reflect object A in the \( y \) – axis

25. Draw the line(s) of symmetry on figure B
26. Draw triangle ABC with AB = 6.5 cm, BC = 5 cm, AC = 4 cm. Line AB is drawn for you.
## MEMORANDUM FOR SPECIMEN PAPER 2 FOR GRADE 8 MATHEMATICS MARKS : 85

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
<th>Narration</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. (a)</td>
<td>20</td>
<td>c.a.o</td>
<td>1</td>
</tr>
<tr>
<td>(b)</td>
<td>22</td>
<td>c.a.o</td>
<td>1</td>
</tr>
<tr>
<td>(c)</td>
<td>27</td>
<td>c.a.o</td>
<td>1</td>
</tr>
<tr>
<td>(d)</td>
<td>24</td>
<td>c.a.o</td>
<td>1</td>
</tr>
<tr>
<td>2.</td>
<td>$\frac{5}{2} &lt; 3.142 &lt; \frac{3}{2} &lt; 4.5$ M1 for changing all numbers to decimal numbers correctly</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>6</td>
<td>c.a.o</td>
<td>1</td>
</tr>
<tr>
<td>4.</td>
<td>$3 \times 3 \times 5 \times 5$ or $3^2 \times 5^2$ M1 for 3;3;5;5</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>5:6</td>
<td>M1 for 20:24 or o.e</td>
<td>2</td>
</tr>
<tr>
<td>6. (a) (i)</td>
<td>0.5</td>
<td>c.a.o</td>
<td>1</td>
</tr>
<tr>
<td>(ii)</td>
<td>$\frac{3}{4}$</td>
<td>c.a.o</td>
<td>1</td>
</tr>
<tr>
<td>(iii)</td>
<td>25%</td>
<td>c.a.o</td>
<td>1</td>
</tr>
<tr>
<td>7.</td>
<td>527</td>
<td>M1 for $\frac{62}{100} \times 850$ or o.e</td>
<td>2</td>
</tr>
<tr>
<td>8. (a)</td>
<td>0.15 or $\frac{3}{20}$</td>
<td>c.a.o</td>
<td>1</td>
</tr>
<tr>
<td>(b)</td>
<td>$\frac{1}{4}$</td>
<td>M1 for $\frac{3}{4} - \frac{2}{4}$ or o.e</td>
<td>2</td>
</tr>
<tr>
<td>(c)</td>
<td>$\frac{4}{5}$ or $\frac{28}{35}$ M1 for $\frac{7}{5} \times \frac{4}{7}$</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>9. (a)</td>
<td>25 000</td>
<td>c.a.o</td>
<td>1</td>
</tr>
<tr>
<td>(b)</td>
<td>29</td>
<td>c.a.o</td>
<td>1</td>
</tr>
<tr>
<td>10. (a)</td>
<td>150</td>
<td>c.a.o</td>
<td>1</td>
</tr>
<tr>
<td>(b)</td>
<td>50%</td>
<td>M1 for $\frac{150}{300} \times 100$ or o.e</td>
<td>2</td>
</tr>
<tr>
<td>11.</td>
<td>5 600</td>
<td>M1 for $\frac{8}{100} \times 5000 \times \frac{18}{12}$ or o.e M2 for 600</td>
<td>3</td>
</tr>
<tr>
<td>12. (a)</td>
<td>650</td>
<td>M1 for $\frac{10}{100} \times 6500$ or o.e</td>
<td>2</td>
</tr>
<tr>
<td>(b)</td>
<td>5 850</td>
<td>c.a.o</td>
<td>1</td>
</tr>
<tr>
<td>13. (a)</td>
<td>Wednesday</td>
<td>c.a.o</td>
<td>1</td>
</tr>
<tr>
<td>(b)</td>
<td>Friday</td>
<td>c.a.o</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
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<tr>
<td>---</td>
<td>---</td>
<td>---</td>
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</tr>
<tr>
<td>(c)</td>
<td>$\pm 9$</td>
<td>M1 for $6-(-3)$ or $-3-6$</td>
<td>2</td>
</tr>
<tr>
<td>(d)</td>
<td>1.6</td>
<td>M1 for $\frac{8}{5}$ or $\text{Expandedsum} \div 5$</td>
<td>2</td>
</tr>
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<td>14. (a)(i)</td>
<td>6</td>
<td>c.a.o</td>
<td>1</td>
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<td>(ii)</td>
<td>$y$</td>
<td>c.a.o</td>
<td>1</td>
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<td>(b)</td>
<td>$-4$</td>
<td>M1 for $2(-5)+6$ or $-10+6$</td>
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<tr>
<td>15. (a)</td>
<td>$2xy+14x$</td>
<td>B1 for $2xy$ or $14x$</td>
<td>2</td>
</tr>
<tr>
<td>(b)</td>
<td>$16x^3y-24x$</td>
<td>B1 for $16x^3y$ or $-24x^2$</td>
<td>2</td>
</tr>
<tr>
<td>16.</td>
<td>3</td>
<td>M1 for $4x=12$</td>
<td>2</td>
</tr>
<tr>
<td>17. (a)</td>
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<td>c.a.o</td>
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</tr>
<tr>
<td>(b)</td>
<td>$C = 2x$</td>
<td>c.a.o</td>
<td>1</td>
</tr>
<tr>
<td>18. (a)</td>
<td>Correct line with an open circle and a correct direction shown</td>
<td>c.a.o</td>
<td>1</td>
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<tr>
<td>(b)</td>
<td>$x \geq -2$</td>
<td>c.a.o</td>
<td>1</td>
</tr>
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<td>19. (a)</td>
<td>28</td>
<td>c.a.o</td>
<td>1</td>
</tr>
<tr>
<td>(b)(i)</td>
<td>44</td>
<td>M1 for $10+4+6+8+4+12$</td>
<td>2</td>
</tr>
<tr>
<td>(ii)</td>
<td>616</td>
<td>M1 for $\frac{22}{7} \times 14^2$ or o.e</td>
<td>2</td>
</tr>
<tr>
<td>(iii)</td>
<td>5</td>
<td>M1 for $\sqrt{125}$</td>
<td>2</td>
</tr>
<tr>
<td>20. (a)</td>
<td>$40^\circ$</td>
<td>M1 for $360-(160+90+70)$ or o.e</td>
<td>2</td>
</tr>
<tr>
<td>(b)</td>
<td>$60^\circ$</td>
<td>M1 for $180-120$</td>
<td>2</td>
</tr>
<tr>
<td>(c)</td>
<td>$20^\circ$</td>
<td>M1 for $180-2(80)$ or o.e</td>
<td>2</td>
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<tr>
<td>21. (a)</td>
<td>8</td>
<td>c.a.o</td>
<td>1</td>
</tr>
<tr>
<td>(b)</td>
<td>$C$</td>
<td>c.a.o</td>
<td>1</td>
</tr>
<tr>
<td>(c)</td>
<td>35</td>
<td>M1 for $6+8+12+4+3+2$</td>
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<tr>
<td>(d)</td>
<td>30</td>
<td>M1 for $6+8+12+4$</td>
<td>2</td>
</tr>
<tr>
<td>(e)</td>
<td>85.7</td>
<td>M1 for $\frac{30}{35} \times 100$</td>
<td>2</td>
</tr>
<tr>
<td>22. (a)</td>
<td>(2,1)</td>
<td>B1 for $(2, y)$ or $(x, I)$ S.C 1 for $(1, 2)$</td>
<td>2</td>
</tr>
<tr>
<td>(b)</td>
<td>A correct line drawn touching y-axis at $-2$</td>
<td>c.a.o</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>23. (a)(i)</td>
<td>10</td>
<td>c.a.o</td>
<td>1</td>
</tr>
<tr>
<td>(ii)</td>
<td>7.5</td>
<td>c.a.o</td>
<td>1</td>
</tr>
<tr>
<td>(b)</td>
<td>8</td>
<td>M1 for 10 – 2</td>
<td>2</td>
</tr>
<tr>
<td>24.</td>
<td>Correct reflection on the y-axis</td>
<td>S.C.1 for correct reflection on x-axis</td>
<td>2</td>
</tr>
<tr>
<td>25.</td>
<td>A correct vertical line of symmetry drawn</td>
<td>c.a.o</td>
<td>1</td>
</tr>
<tr>
<td>26.</td>
<td>Correct triangle drawn with arcs.</td>
<td>B1 for each correct line drawn</td>
<td>2</td>
</tr>
</tbody>
</table>

**TOTAL MARKS**

85
Candidate Name:___________________________________________________________
School: ________________________________________________________________ Grade: __________

NAMIBIA JUNIOR SECONDARY SEMI-EXTERNAL EXAMINATION

MATHEMATICS
GRADE 9 PAPER 1 (Short Questions) 1 Hours 30 Min
Marks 45 2017

Additional Materials: Geometrical instruments
Tracing paper (optional)

ELECTRONIC CALCULATORS MUST NOT BE USED IN THIS PAPER

- Candidates answer on the Question Paper in the spaces provided.
- Write your Name, School and Grade in the spaces at the top of this page.
- Answer all the questions. All working must be shown clearly.
- Write in dark blue or black pen.
- **You are not allowed to use a calculator for this paper.**
- Do not use correction fluid.
- Do not write in the margin For Examiner’s Use.
- If the 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 available is shown in brackets [ ] after each question or part question.

For Examiner’s Use

<table>
<thead>
<tr>
<th>Marker</th>
<th>Checker</th>
</tr>
</thead>
</table>

This document consists of 8 printed pages.

Republic of Namibia
MINISTRY OF EDUCATION, ARTS AND CULTURE

Grade 8 & 9 Specimen Papers, NIED, 2018
1. Evaluate
   (a) \(2^3\),
       Answer (a) ........................................... [1]
   (b) \(3^2\),
       Answer (b) ........................................... [1]
   (c) \(100^0\).
       Answer (c) ........................................... [1]

2. Mr. Dauseb wants to share 75 goats among his two sons Hans and Dave aged 10 and 15 years respectively.
   (a) Write down Hans and Dave age’s as a ratio in its simplest.
       Answer (a) .................. : ............. [2]
   (b) Calculate the number of goats Hans will get.
       Answer (b) .................. goats [2]

3. Selma bought N$20.00 recharge voucher that includes 15% VAT. Calculate the amount of VAT on the price.

   Answer N$ ................. [2]
4. Given that U$1 = N$15. Covert U$180.00 into Namibian dollars.

Answer N$ .................................................. [2]

5. Shihepo is a casual worker at a lodge and he is paid N$12.00 per hour. Calculate the total amount he will get if he worked for 20 hours.

Answer N$ .................................................. [2]

6. Sarah bought a smartphone for N$10 000, after two years she sold it for N$8 000. Calculate:

(a) the difference between the cost price and the selling price,

Answer (a) N$ ............................................. [1]
(b) the percentage decrease on cost price.

Answer (b) ……………………………% [2]

7. (a) Simplify \(\frac{10x^7 y^6}{2x^3 y^5}\).

Answer (a) …………………………… [2]

(b) Expand and simplify \((2x-3)(3x+5)\).

Answer (b) …………………………… [2]

(c) Solve the equation \(2x + 11 = 5x + 2\).

Answer (c) \(x \) …………………………… [2]

8. In a class, the ratio of boys to girls is 2 : 5. Find the number of girls when there is 14 boys in a class.
9. The formula for the \( n \)\textsuperscript{th} term of a sequence is \( 6n - 3 \).

(a) Write down the first two terms.

(b) Which term is equal to 33.

10. The diagram of a kite is given.

Calculate the area of the kite.

Answer \( \ldots \) cm\(^2\) [2]
11. The diagram shows a parallelogram ABCD.

Find the value of:
(a) $x^\circ$

Answer: $x = \ldots \ldots \ldots \ldots ^\circ$ [1]

(b) $y^\circ$

Answer: $y = \ldots \ldots \ldots \ldots ^\circ$ [1]

12. The diagram of a circle is drawn.

Write down the order of rotational symmetry.

Answer \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots [1]
13. The ABC is a right-angled triangle.

Calculate the length of AC.

Answer ………………………… cm [2]
14. The diagram shows a straight line graph.

a) Write down the y-intercept of line B.

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

b) Calculate the gradient of line B.

Answer (b) ........................................... [2]
15. Jane chooses a letter at random from the word **OTAMANZI**. Find the probability that the letter that Jane chooses is:
   a) an A,

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

   b) a K.

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

16. Six grade 9 learners wrote a Mathematics test out of 20. Their test marks are:

   18, 5, 10, 3, 2, 4

   (a) Find
   (i) the range,

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

   (ii) the median.

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

   (b) Calculate the mean mark.

   Answer (b) ........................................... [2]
<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
<th>Narration</th>
<th>Marks</th>
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<td>1. a)</td>
<td>8</td>
<td>cao</td>
<td>1</td>
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<td></td>
<td>b)</td>
<td>(\frac{1}{9})</td>
<td>cao</td>
</tr>
<tr>
<td></td>
<td>c)</td>
<td>1</td>
<td>cao</td>
</tr>
<tr>
<td>2. a)</td>
<td>2 : 3</td>
<td>B1 for only one number correct</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>b)</td>
<td>30 goats</td>
<td>M1 for (\frac{2}{5} \times 75) or (\frac{150}{5}) or (2 \times 15)</td>
</tr>
<tr>
<td>3.</td>
<td>N$ 3.00</td>
<td>M1 for (\frac{15}{100} \times 20) or (\frac{15}{10} \times 2) or (\frac{300}{100}) or (0.15 \times 20)</td>
<td>2</td>
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<tr>
<td>4.</td>
<td>N$ 2700.00</td>
<td>M1 for (15 \times 180) seen</td>
<td>2</td>
</tr>
<tr>
<td>5.</td>
<td>N$ 240.00</td>
<td>M1 for (12 \times 20)</td>
<td>2</td>
</tr>
<tr>
<td>6. a)</td>
<td>N$ 2000.00</td>
<td>c.a.o</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>b)</td>
<td>20%</td>
<td>M1 for (\frac{2000}{10000} \times 100) or (\frac{2}{10} \times 100) or (\frac{2000}{100} \times \frac{200000}{10000})</td>
</tr>
<tr>
<td>7. a)</td>
<td>(5x^4y)</td>
<td>B1 for 5 or (x^4y) seen</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>b)</td>
<td>(6x^2 + x - 15)</td>
<td>B1 for (6x^2 + 10x - 9x - 15) seen</td>
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<tr>
<td></td>
<td>c)</td>
<td>(x = 3)</td>
<td>B1 for (-3x = -9)</td>
</tr>
<tr>
<td>8.</td>
<td>35 girls</td>
<td>B1 for (2x = 98) or (49) seen</td>
<td>2</td>
</tr>
<tr>
<td>9. a)</td>
<td>3 and 9</td>
<td>B1 for 3 or 9 seen</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>b)</td>
<td>(n = 6)</td>
<td>M1 for (6n = 36)</td>
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<tr>
<td>10.</td>
<td>25 cm²</td>
<td>M1 for (\frac{1}{2} \times 50) or (2.5 \times 10) seen</td>
<td>2</td>
</tr>
<tr>
<td>11. a)</td>
<td>(x = 60°)</td>
<td>c.a.o</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>b)</td>
<td>(y = 120°)</td>
<td>c.a.o</td>
</tr>
<tr>
<td>12.</td>
<td>2 order of rotational symmetry</td>
<td>c.a.o</td>
<td>1</td>
</tr>
<tr>
<td>13.</td>
<td>10 cm</td>
<td>M1 for (\sqrt{36 + 64}) or (\sqrt{100}) seen</td>
<td>2</td>
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</table>

Grade 8 & 9 Specimen Papers, NIED, 2018
<table>
<thead>
<tr>
<th>Question</th>
<th>Mark</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>14. a)</td>
<td>- 4</td>
<td>c.a.o</td>
</tr>
<tr>
<td>b)</td>
<td>2</td>
<td>M1 for any correct change in ( y \div ) any correct change in ( x ).</td>
</tr>
<tr>
<td>15. a)</td>
<td>( \frac{1}{4} )</td>
<td>c.a.o</td>
</tr>
<tr>
<td>b)</td>
<td>0</td>
<td>c.a.o</td>
</tr>
<tr>
<td>16. a)</td>
<td>16</td>
<td>c.a.o</td>
</tr>
<tr>
<td>(i)</td>
<td>4.5</td>
<td>M1 for ( \frac{4 + 5}{2} ) seen</td>
</tr>
<tr>
<td>(ii)</td>
<td>7</td>
<td>M1 for ( \frac{2 + 3 + 4 + 5 + 10 + 18}{6} ) or ( \frac{42}{6} ) seen</td>
</tr>
</tbody>
</table>

TOTAL MARKS: 45
Candidate Name:___________________________________________________________

School: ___________________________________________ Grade: ______________

NAMIBIA JUNIOR SECONDARY SEMI-EXTERNAL EXAMINATION

MATHEMATICS
GRADE 9 PAPER 2 (Structured Questions) 2 Hours
Marks 85 2017

Additional Materials: Geometrical instruments
Tracing paper (optional)
Non – programmable calculator

• Candidates answer on the Question Paper in the spaces provided.
• Write your Name, School and Grade in the spaces at the top of this page.
• Answer all the questions. All working must be shown clearly.
• Write in dark blue or black pen.
• You may use a non – programmable calculator for this paper.
• Do not use correction fluid.
• Do not write in the margin For Examiner’s Use.
• If the 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 available is shown in brackets [ ] after each question or part question.

For Examiner’s Use

Marker

Checker

This document consists of 10 printed pages.

Republic of Namibia
MINISTRY OF EDUCATION, ARTS AND CULTURE

Grade 8 & 9 Specimen Papers, NIED, 2018
1. Work out
   (a) \( \sqrt{25} + \frac{3}{216} \times 5^3 \),

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

   (b) \( 2(3a^3)^2 \).

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

2. Evaluate \( (16x^4)^{\frac{1}{2}} \)

   Answer ............................................ [2]

3. John has 40 sweets. He gives 15% of the sweets to a friend.
   (a) Calculate the number of sweets John gives to his friend.

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

   (b) Find the number of sweets John have now.

   Answer (b) ................. sweets [1]
4. (a) Round 345.367 to:

(i) one decimal place,

Answer (a)(i) ………………………………… [1]

(ii) two significant figures.

Answer (a)(ii) ………………………………… [1]

(b) Round off each number in the given calculation to the nearest whole number.

(i) 74.7 ÷ 4.5 + 9.7

Answer (b)(i) …………… + ……… + ……… [1]

(ii) Use your answer in part b)(i) to estimate the answer to the given calculation.

Answer (b)(ii) ………………………………… [1]

5. The first four terms of a sequence are 2, 6, 10, 14, . . .

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

Answer (a) ………………………………… [1]

(b) Find the \( n \)th term of the sequence.

Answer (b) ………………………………… [2]

(c) Use the \( n \)th term to find the 16th term.

Answer (c) ………………………………… [2]
6. The cash price of a refrigerator is N$8 500. The refrigerator can also be bought on a hire purchase by paying a deposit of 10% of the cash price and a monthly installment of N$450 per month for 24 months. Mrs Jonas decides to buy the refrigerator on hire purchase.

(a) Calculate the deposit she has to pay.

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

(b) Calculate the hire purchase price of the refrigerator.

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

(c) Find the difference between the cash price and hire purchase price.

Answer (c) N$ ........................................... [1]
7. Ms January invests N$10 000 at 8% compound interest per annum. Ms January invests her money for 3 years. Calculate the compound interest after 3 years.

Answer N$ ........................................... [3]

8. Expand and simplify the following expressions

(a) \((x-6)^2\),

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

(b) \((a + 2)(3a - 2b + 1)\).

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

9. Factorise completely:

(a) \(4a^2 - 16a + 2a^3\)

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

(b) \(2ax + 3by + 3ay + 2bx\)

Answer (b) ........................................... [2]
10. Find the value of $2a^2 + 3ab - 5c$ when $a = -2$, $b = 3$ and $c = 1$.

Answer ………………………………………… [2]

11. Kahiri is $x$ years old, his sister is 6 years younger than him, and his father is twice as old as Kahiri.

(a) Write down the father’s age in terms of $x$.

Answer (a) …………………………………… [1]

(b) The total of their ages is 82 years. Write down the equation in terms of $x$.

Answer (b) …………………………………… [1]

(c) Work out Kahiri’s age by solving the equation in part (b).

Answer (c) …………………………………… [2]

12. (a) Solve the inequality $4x \leq 2x + 8$
13. (a) Name polygon ABCDE.

Answer (a) ………………………………. [1]

(b) Calculate the sum of the interior angles of this polygon.

Answer (b) ………………………………° [2]

(c) Calculate

(i) angle $x^\circ$,

Answer (c)(i) $x =$……………………………° [2]

(ii) angle $y^\circ$.

Answer (c)(ii) $y =$……………………………° [2]
14. (a) Calculate the perimeter of the trapezium.

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

(b) Calculate the area of the circle. (use $\pi = \frac{22}{7}$)

Answer (b) .............................. cm$^2$ [2]
c) Calculate the surface area of the cuboid.

![Cuboid diagram with dimensions: 8 mm x 6 mm x 15 mm]

Answer (c) .................................. mm² [2]

(d) The diagram shows a cylinder with a radius of 4 cm and the volume of 704 cm³.

![Cylinder diagram with volume label and height h]

Calculate the height (h) of the cylinder.

Answer (d) \( h = \) .................................. cm [3]
15. A box contains 40 pencils. 12 are red, 24 are black and the rest are blue.
(a) How many blue pencils are in the box?

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

(b) What is the probability of choosing a blue pencil at random?

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

(c) What is the probability of choosing a green pencil from the box?

Answer (c) ............................................. [1]
16. The diagram shows the graph of line $AB$.

(a) (i) Write down the $y$–intercept of line $AB$.

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

(ii) Calculate the gradient of line $AB$.

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

(iii) Find the equation of line $AB$.

Answer (a)(iii) $y = .........................$ [1]

(b) (i) Complete the table of values for $y = 2x + 2$.

<table>
<thead>
<tr>
<th>$x$</th>
<th>-3</th>
<th>-2</th>
<th>-1</th>
<th>0</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>$y$</td>
<td>-4</td>
<td>0</td>
<td>2</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

[2]

(ii) On the same grid plot all the points of the table in part (b) (i) to draw the graph of $y = 2x + 2$.

[2]
17. Using a pair of compasses and straight edge.

(a) Bisect angle $ABC$.

(b) Construct triangle $DEF$. $DE = 6$ cm, $EF = 8$ cm and $DF = 5$ cm ($EF$ is given as 7 cm).
18. The diagram shows trapezium $A$ and $B$.

(a) Describe fully a single transformation that maps trapezium $A$ onto trapezium $B$.

Answer …………………………………………………………………………………………………………..
………………………………………………………………………………………………………………….. [3]

19. On the grid, draw the enlargement of trapezium $A$ with scale factor 2 about (0,0). [2]
20. The graph shows a return journey by train from Town A to Town B.

(a) How far is town A from town B?

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

(b) Calculate the average speed for the train

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

(c) How long did the train stay at town B?

Answer (c) ................................. [1]
## Grade 9 Paper 2 Mark Scheme

<table>
<thead>
<tr>
<th>Question</th>
<th>Sub-question</th>
<th>Answer</th>
<th>Narration</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>(a)</td>
<td>755</td>
<td>M1 for $5 + 6 \times 125$</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>(b)</td>
<td>$18a^6$</td>
<td>B1 for $18$ or $a^6$ or M1 for $2(9a^6)$</td>
<td>2</td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td>$4x^2$</td>
<td>B1 for $4$ or $x^2$</td>
<td>2</td>
</tr>
<tr>
<td>3.</td>
<td>(a)</td>
<td>6</td>
<td>M1 for $\frac{15}{100} \times 40$ or o.e</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>(b)</td>
<td>34</td>
<td>c.a.o</td>
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</tr>
<tr>
<td>4.</td>
<td>(a) (i)</td>
<td>345.4</td>
<td>c.a.o</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>(ii)</td>
<td>350</td>
<td>c.a.o</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>(b) (i)</td>
<td>$75 \div 5 + 10$</td>
<td>c.a.o</td>
<td>1</td>
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<tr>
<td></td>
<td>(ii)</td>
<td>25</td>
<td>Accept ft.</td>
<td>1</td>
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<tr>
<td>5.</td>
<td>(a)</td>
<td>18</td>
<td>c.a.o</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>(b)</td>
<td>$4n - 2$ or $2 + 4(n-1)$ or $2 + 4n - 4$</td>
<td>B1 for $4n$ or $-2$</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>(c)</td>
<td>398</td>
<td>M1 for $4(100) - 2$ or $2 + 4(100 - 2)$</td>
<td>2</td>
</tr>
<tr>
<td>6.</td>
<td>(a)</td>
<td>850</td>
<td>M1 for $\frac{10}{100} \times 8500$</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>(b)</td>
<td>11 650</td>
<td>M1 for $850 + 450 \times 24$</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>(c)</td>
<td>3150</td>
<td>c.a.o</td>
<td>1</td>
</tr>
<tr>
<td>7.</td>
<td></td>
<td>2 597.12</td>
<td>M1 for $10000 \left(\frac{8}{100} + 1\right)^2$</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>M2 for 12 597.12</td>
<td></td>
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<tr>
<td>8.</td>
<td>(a)</td>
<td>$x^2 - 12x + 36$</td>
<td>M1 for $x^2 - 6x - 6x + 36$</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>(b)</td>
<td>$3a^2 + 7a - 2ab - 4b + 2$</td>
<td>M1 for $3a^2 - 2ab + a + 6a - 4b + 2$</td>
<td>2</td>
</tr>
<tr>
<td>9.</td>
<td>(a)</td>
<td>$2a(2a - 8 + a^2)$</td>
<td>B1 for $2a$ or $2a - 8 + a^2$</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>(b)</td>
<td>$(a+b)(2x+3y)$</td>
<td>M1 for $a(2x+3y)+b(3y+2x)$</td>
<td>2</td>
</tr>
<tr>
<td>10.</td>
<td></td>
<td>$-15$</td>
<td>M1 for $2(-2)^2 + 3(-2)(3) - 5(1)$ or $8 - 18 - 5$</td>
<td>2</td>
</tr>
<tr>
<td>11.</td>
<td>(a)</td>
<td>$2x$</td>
<td>c.a.o</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>(b)</td>
<td>$x + x - 6 + 2x = 82$ or c.a.o</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(4x - 6 = 82)</td>
<td></td>
<td></td>
<td></td>
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<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(c)</td>
<td>19</td>
<td>M1 for (4x = 76)</td>
<td>2</td>
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<tr>
<td>12.</td>
<td>(a) (x \leq 4)</td>
<td>M1 for (2x \leq 8)</td>
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<tr>
<td></td>
<td>(b) A correct line drawn with a correct direction</td>
<td>B1 for open circle or correct direction shown</td>
<td>2</td>
<td></td>
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<tr>
<td>13.</td>
<td>(a) Pentagon</td>
<td>c.a.o</td>
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<tr>
<td></td>
<td>(b) (540^\circ)</td>
<td>M1 for ((5 - 2)180) or o.e</td>
<td>2</td>
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</tr>
<tr>
<td></td>
<td>(c) (i) (130^\circ)</td>
<td>M1 for (540 - (110 + 300))</td>
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<tr>
<td></td>
<td>(ii) (80^\circ)</td>
<td>M1 for (180 - 100)</td>
<td>2</td>
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<tr>
<td>14.</td>
<td>(a) 34</td>
<td>M1 for (10 + 8 + 9 + 7)</td>
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<tr>
<td></td>
<td>(b) 707.1</td>
<td>M1 for (\frac{22}{7} \times 15^2) or o.e</td>
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<tr>
<td></td>
<td>(c) 720</td>
<td>M1 for (6 \times 8 \times 15)</td>
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<tr>
<td></td>
<td>(d) 14</td>
<td>M1 for (\frac{22}{7} \times 4^2 \times h = 704)</td>
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<tr>
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<td></td>
<td>M2 for (50.28 \times h = 704)</td>
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<tr>
<td>15.</td>
<td>(a) 4</td>
<td>c.a.o</td>
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<td></td>
<td>(b) (\frac{1}{10})</td>
<td>M1 for (\frac{4}{40})</td>
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<tr>
<td></td>
<td>(c) 0</td>
<td>c.a.o</td>
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<td>16.</td>
<td>(a) (i) 3</td>
<td>c.a.o</td>
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<tr>
<td></td>
<td>(ii) 1</td>
<td>M1 for (\frac{3}{3}) or o.e</td>
<td>2</td>
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<tr>
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<td>(iii) (y = x + 3)</td>
<td>c.a.o</td>
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<tr>
<td></td>
<td>(b) (i) (-2, 4)</td>
<td>B1 for (-2) or 4</td>
<td>2</td>
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<tr>
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<td>(ii) A correct line drawn with all points</td>
<td>P1 for all points plotted</td>
<td>2</td>
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<tr>
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<td>L1 for the line</td>
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<tr>
<td>17.</td>
<td>(a) Correct bisect line with arcs</td>
<td>B1 for correct arcs or correct line</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(b) A triangle drawn correctly with arcs</td>
<td>B1 for correct line with arcs</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>18.</td>
<td>(a) Rotation, 90 clockwise or (-90) or 270 anticlockwise or (+270), about ((0,0))</td>
<td>B1 for Rotation or 90 clockwise or 270 anticlockwise or ((0,0))</td>
<td>3</td>
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</tr>
<tr>
<td></td>
<td>(b)</td>
<td>Correct enlargement with vertices (2,2) (6,2) (2,4) (4.5,4)</td>
<td>B1 for correct scale factor used with wrong centre of enlargement</td>
<td></td>
</tr>
<tr>
<td>---</td>
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<td>----------------------------------------------------------</td>
<td>---------------------------------------------------------------</td>
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<td>19.</td>
<td>(a) (i)</td>
<td>100</td>
<td>c.a.o</td>
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</tr>
<tr>
<td></td>
<td>(ii)</td>
<td>66.7</td>
<td>M1 for $\frac{100}{1.5}$</td>
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</tr>
<tr>
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<td>(b)</td>
<td>From Town A to Town B</td>
<td>c.a.o</td>
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</tr>
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</table>

**TOTAL MARKS** 85