



MARKS: 100

This memorandum consists of 5 pages.

Important Information

- This is a marking guideline. In instances where learners have used different but mathematically correct strategies to solve the problems they (learners) should be credited.
- Unless stated otherwise, learners who give a correct answer only, should be awarded full marks.
- Underline errors committed by learners and apply Consistent Accuracy (CA) marking.

KEY	
M	Method mark
CA	Consistent Accuracy mark
A	Accuracy mark

CA Example	
$2^3 \times 1^4 = 8 \checkmark \times 1 \checkmark A$	8: 1 mark
$= 8 \checkmark CA$	1: 1 mark
If	Answer: 1 mark
$2^3 \times 1^4 = \underline{6} \times \underline{4}$	
$= 24 \checkmark CA$	

QUESTION 1

1.1	B ✓	1.2	C ✓	1.3	C ✓	1.4	A ✓	1.5	B ✓
1.6	C ✓	1.7	B ✓	1.8	B ✓	1.9	A ✓	1.10	D ✓

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QUESTION 2

2.1.1	$\begin{array}{r} 1\ 643\ 884 \\ + 262\ 206 \\ \hline 1\ 906\ 090 \\ \checkmark \checkmark A \end{array}$	090: 1 mark 1 906: 1 mark	2
2.1.2	$\begin{array}{r} \underline{210} \text{ rem } 7 \checkmark CA \\ 31 \overline{) 6\ 517} \\ \underline{- 6\ 200} \checkmark M \\ \quad 317 \\ \underline{- 310} \checkmark M \\ \quad \quad 7 \checkmark CA \end{array}$ <p>or</p> $\begin{array}{r} \underline{210} \text{ rem } 7 \checkmark \checkmark \checkmark A \\ 31 \overline{) 6\ 5^3 17} \checkmark M \end{array}$	$200 \times 31 = 6\ 200$ $10 \times 31 = 310$ 210: 1 mark 6200: 1 mark 310: 1 mark rem 7: 1 mark or 210 rem 7: 4 marks (if method is shown) 210,225...: 1 mark ANSWER ONLY: 1 mark	4

2.1.3	315×236 $\begin{array}{r} 315 \\ \times 236 \\ \hline 1890 \quad \checkmark \text{M} \\ 9450 \quad \checkmark \text{M} \\ + 63000 \quad \checkmark \text{M} \\ \hline 74340 \quad \checkmark \text{CA} \end{array}$ or $\begin{array}{r} 315 \\ \times 236 \\ \hline 63000 \quad \checkmark \text{M} \\ 9450 \quad \checkmark \text{M} \\ + 1890 \quad \checkmark \text{M} \\ \hline 74340 \quad \checkmark \text{CA} \end{array}$ $315 \times 6 = 1890$ $315 \times 30 = 9450$ $315 \times 200 = 63000$	1 890: 1 mark 9 450: 1 mark 63 000: 1 mark Answer 74 340: 1 mark	4
2.1.4	$2^3 \times 1^4 = 8 \quad \checkmark \times 1 \quad \checkmark \text{A}$ $= 8 \quad \checkmark \text{CA}$	8: 1 mark 1: 1 mark Answer: 1 mark	3
2.1.5	$\sqrt{144} + 6^2$ $= 12 \quad \checkmark + 36 \quad \checkmark \text{A}$ $= 48 \quad \checkmark \text{CA}$	12: 1 mark 36: 1 mark Answer: 1 mark	3
2.1.6	$\frac{3}{5} \times \frac{7}{6}$ or $\frac{3}{5} \times \frac{7}{6}$ $= \frac{\cancel{3}^1}{5} \checkmark \times \frac{7}{\cancel{6}^2} \checkmark \text{M}$ or $= \frac{\cancel{3}^1}{5} \times \frac{7}{\cancel{6}^2} \checkmark \checkmark \text{M}$ $= \frac{7}{10} \checkmark \text{CA}$ or $= \frac{7}{10} \checkmark \text{CA}$	$\frac{1}{5}$: 1 mark $\frac{7}{2}$: 1 mark Answer: 1 mark or 21: 1 mark 30: 1 mark Answer: 1 mark	3
2.1.7	$\frac{0,012}{4} = 0,003 \quad \checkmark \text{A}$	Answer: 1 mark	1
2.1.8	$100 - 12 \div (8 + 4)$ $= 100 - 12 \div 12 \quad \checkmark \text{M}$ or $100 - (12 \div 12) \quad \checkmark \text{M}$ $= 100 - 1 \quad \checkmark \text{M}$ $= 99 \quad \checkmark \text{CA}$	12: 1 mark 1: 1 mark Answer: 1 mark	3
2.2	$1,6 = \frac{16}{10} \quad \checkmark \text{M}$ $= \frac{8}{5} \quad \checkmark \text{A}$	$\frac{16}{10}$: 1 mark Answer: 1 mark	2
2.3	No. of boys : No. of girls = 2 : 3 Total number of equal parts = 2 + 3 = 5 $\checkmark \text{M}$ No of boys = $\frac{2}{5} \times \frac{25}{1} \quad \checkmark \text{M}$ $= 10 \quad \checkmark \text{CA}$ or No of boys : No of girls : Total = 2 : 3 : 5 $\checkmark \text{M}$ \therefore No of boys = $\frac{2}{5} \times \frac{25}{1} \quad \checkmark \text{M}$ $= 10 \quad \checkmark \text{A}$	5: 1 mark $\frac{2}{5} \times \frac{25}{1}$: 1 mark Answer: 1 mark	3

2.4	$10\% \text{ of } R15,00 = \frac{10^1}{100^{10}} \checkmark \times \frac{R15,00}{1} \checkmark M = R1,50 \checkmark CA$ $10\% \text{ of } R15,00 = \frac{1}{10} \checkmark \times \frac{R15,00}{1} \checkmark M = R1,50 \checkmark CA$	$\frac{10}{100} : 1 \text{ mark}$ $\frac{10}{100} \times \frac{R15,00}{1} : 1 \text{ mark}$ Answer: 1 mark or $\frac{1}{10} : 1 \text{ mark}$ $\frac{1}{10} \times \frac{R15,00}{1} : 1 \text{ mark}$ Answer: 1 mark	3						
2.5	$\text{Distance travelled} = 80 \text{ km/h} \times 4,5 \text{ h} \checkmark \checkmark M = 360 \text{ km} \checkmark CA$ or $\text{Distance travelled} = 80 \text{ km/h} \times \frac{9}{2} \text{ h} \checkmark \checkmark M = 360 \text{ km} \checkmark CA$ or $\text{In } 1 \text{ h} \rightarrow 80 \text{ km}$ $\text{In } \frac{1}{2} \text{ h} \rightarrow 40 \text{ km} \checkmark M$ $\text{In } 4 \text{ h} \rightarrow 320 \text{ km} \checkmark M$ $\therefore \text{In } 4\frac{1}{2} \text{ h} \rightarrow 360 \text{ km} \checkmark CA$	$80 \text{ km/h} \times 4,5 \text{ h} : 2 \text{ marks}$ Answer: 1 mark or $80 \text{ km/h} \times \frac{9}{2} \text{ h} : 2 \text{ marks}$ Answer: 1 mark or $\frac{1}{2} \text{ h} - 40 \text{ km} : 1 \text{ mark}$ $4 \text{ h} - 320 \text{ km} : 1 \text{ mark}$ Answer: 1 mark	3						
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QUESTION 3									
3.1.1	1; 4; 9; <u>16</u> \checkmark ; 25; <u>36</u> $\checkmark A$	16: 1 mark 36: 1 mark	2						
3.1.2	Square numbers $\checkmark A$	Answer: 1 mark	1						
3.2	<table border="1" style="margin-left: auto; margin-right: auto;"> <tbody> <tr> <td style="padding: 5px;">No of polygons</td> <td style="padding: 5px;">4</td> <td style="padding: 5px;">n</td> </tr> <tr> <td style="padding: 5px;">No. of sides</td> <td style="padding: 5px;">29 $\checkmark A$</td> <td style="padding: 5px;">$7n \checkmark + 1 \checkmark A$</td> </tr> </tbody> </table>	No of polygons	4	n	No. of sides	29 $\checkmark A$	$7n \checkmark + 1 \checkmark A$	29: 1 mark $7 \times n$ or $7n$: 1 mark + 1: 1 mark	3
No of polygons	4	n							
No. of sides	29 $\checkmark A$	$7n \checkmark + 1 \checkmark A$							
3.3	<div style="text-align: center;"> p 7 11 $(3.3.2) \underline{12} \checkmark A$ 20 </div> <div style="display: inline-block; vertical-align: middle; text-align: center;"> \rightarrow \rightarrow \rightarrow \rightarrow </div> <div style="border: 1px solid black; border-radius: 15px; padding: 10px; display: inline-block; margin: 0 20px;"> $t = 2 \times p - 3$ </div> <div style="display: inline-block; vertical-align: middle; text-align: center;"> \rightarrow \rightarrow \rightarrow \rightarrow </div> <div style="text-align: center;"> t 11 $(3.3.1) \underline{19} \checkmark A$ 21 $(3.3.3) \underline{37} \checkmark A$ </div>	19: 1 mark 12: 1 mark 37: 1 mark	3						
3.4	$c^3 + 12 = (3)^3 + 12 \checkmark M = 27 + 12 \checkmark A = 39 \checkmark CA$	Substitution: 1 mark 27: 1 mark Answer: 1 mark	3						
3.5.1	$k = 27 \checkmark A$	$k = 27$: 1 mark	1						

3.5.2	$y = 30$ ✓A	$y = 30$: 1 mark	1
3.6.1	$x + 5$ ✓A	Answer: 1 mark	1
3.6.2	$2 \times p$ ✓ or $2(p)$ ✓ or $2p$ ✓ $- 8$ ✓ = 12 ✓A	$2 \times p$ or $2(p)$ or $2p$: 1 mark - 8: 1 mark Answer: 1 mark	3
3.7.1	50 ✓A	50: 1 mark	1
3.7.2	Tuesday and Wednesday ✓A	Tue and Wed: 1 mark Only one day: no mark	1
3.7.3	Difference = $50 - 40$ ✓M = 10 ✓A	$50 - 40$: 1 mark 10: 1 mark ANSWER ONLY: 2 marks	2

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QUESTION 4

4.1	<table border="1"> <tr> <td>Equilateral Δ</td> <td>Right -angled Δ</td> <td>Obtuse-angled Δ</td> </tr> <tr> <td>C ✓A</td> <td>B ✓A</td> <td>D ✓A</td> </tr> </table>	Equilateral Δ	Right -angled Δ	Obtuse-angled Δ	C ✓A	B ✓A	D ✓A	C: 1 mark B: 1 mark D: 1 mark	3
Equilateral Δ	Right -angled Δ	Obtuse-angled Δ							
C ✓A	B ✓A	D ✓A							
4.2.1	Acute angle ✓A	Answer: 1mark	1						
4.2.2	Obtuse angle ✓A	Answer: 1mark	1						
4.2.3	Right angle ✓A	Answer: 1mark	1						
4.2.4	BD and AC ✓A or BD and DC ✓A or BD and AD ✓A or BD \perp AC ✓A or BD \perp DC ✓A or BD \perp AD ✓A	Answer: 1mark (letters in any order)	1						
4.3.1	PQ is a diameter ✓A	Answer: 1 mark	1						
4.3.2	TM is a radius ✓A	Answer: 1 mark	1						
4.3.3	PS is a chord ✓A	Answer: 1 mark	1						
4.4.1	Fig A is a parallelogram ✓A	Answer: 1 mark	1						
4.4.2	Fig B is a kite ✓A	Answer: 1 mark	1						
4.4.3	Fig C is a heptagon or septagon ✓A	Answer: 1 mark	1						
4.4.4	Fig D is a pentagon ✓A	Answer: 1 mark	1						

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QUESTION 5			
5.1.1	$QR = PR = 23 \text{ mm}$ ✓A	Answer: 1 mark	1
5.1.2	$\hat{P} = \hat{Q} = 60^\circ$ ✓A	Answer: 1 mark	1
5.2.1	$DF = 4 \text{ cm}$ ✓A	Answer: 1 mark	1
5.2.2	$\hat{F} = 40^\circ$ ✓A	Answer: 1 mark	1
			[4]
QUESTION 6			
6.1.1	D ✓A	Answer: 1 mark	1
6.1.2	A ✓A (D can also be accepted)	Answer: 1 mark	1
6.2.1	Group 1 - Congruent ✓A (Similar can also be accepted)	Answer: 1 mark	1
6.2.2	Group 2 - Similar ✓A	Answer: 1 mark	1
			[4]
QUESTION 7			
7.1	$P = 2l + 2b$ ✓M or $P = 2(l + b)$ ✓M $= 22 \text{ cm} + 10 \text{ cm}$ ✓M $= 2(11 + 5)\text{cm}$ ✓M $= 32 \text{ cm}$ ✓CA $= 32 \text{ cm}$ ✓CA	Formula: 1 mark substitution: 1 mark Answer: 1 mark	3
7.2	S-A of cube = $6(l)^2$ ✓A or S-A of cube = $6 \times l^2$ ✓A	Answer: 1 mark	1
7.3	Volume of rectangular prism = $l \times b \times h$ ✓M $= 5 \text{ cm} \times 3 \text{ cm} \times 10 \text{ cm}$ ✓M $= 150 \text{ cm}^3$ ✓CA	Formula: 1 mark substitution: 1 mark Answer: 1 mark	3
			[7]
QUESTION 8			
8.1	Daughter's age = mother's age $\div 2$ $= 64 \div 2$ years ✓M $= 32$ years ✓A	$64 \div 2$: 1 mark Answer: 1 mark ANSWER ONLY: 2 mark	2
8.2	$5 \times 2 = 10$ ✓A Difference = $5 - 2$ ✓A $= 3$ ✓A	5: 1 mark 2: 1 mark Answer: 1 mark	3
			[5]
TOTAL:			100