GENERAL EDUCATION AND TRAINING CERTIFICATE

ABET LEVEL 4

POST INTERVENTION PRELIMINARY EXAMINATION

MARKING GUIDE

LEARNING AREA : **MATHEMATICAL LITERACY**

CODE : **MLMS4**

DATE : **28 SEPTEMBER 2017**

TIME : **3 HOURS**

MARKS : **100**

This memorandum consists of 6 pages.

| Symbol	Explanation
M	Method
CA	Consistent accuracy
A	Accuracy
C	Conversion
S	Simplification
RT/RG	Reading from a table / Reading from a graph
F	Choosing correct formula
SF	Substitution in formula
J	Justification
P	Penalty, e.g. for no units, incorrect rounding off etc.
R	Rounding off / reason

QUESTION 1   [27]

1.1.1	318 ✔	1A Answer	(1)

1.1.2	6,09 ✔	1A Answer	(1)

1.1.3	$\dfrac{26}{6} - \dfrac{14}{12} + \dfrac{9}{4}$ ✔ or $(4 - 1 + 2) + \left(\dfrac{2}{6} - \dfrac{2}{12} + \dfrac{1}{4}\right)$ $= \dfrac{52 - 14 + 27}{12}$ ✔ $= 5 + \dfrac{2 \times 2}{6 \times 2} - \dfrac{2}{12} + \dfrac{1 \times 3}{4 \times 3}$ ✔ $= \dfrac{65}{12}$ $= 5 + \dfrac{4}{12} - \dfrac{2}{12} + \dfrac{3}{12}$ ✔ $= 5\dfrac{5}{12}$ ✔ $= 5\dfrac{5}{12}$ ✔	1 C Improper fraction/Multiples 1 S LCD/LCM 1 CA Answer	(3)

	1.1.4	$3,1 + 2,4 \times \dfrac{2}{1}$ ✔ $= 3,1 + 4,8$ $= 7,9$ ✔	1 M Multiplicative inverse 1 A Answer	(2)

	1.1.5	$= 14 - 6$ ✔ $= 8$ ✔	1 S Simplify roots 1 A Answer	(2)

	1.1.6	$= 2401 \times 216$ ✔ $= 518\,616$ ✔	1 S Squaring 1 A Answer	(2)

	1.1.7	$= \dfrac{30}{100} \times R250$ ✔ $= R75$ ✔	1 M Calculation 1 A Answer	(2)

1.2	37 out of 50 is bigger ✔	1 A Answer	(1)

1.3	$1000 + 500 + 80 + 9$	1 A Answer	(1)

1.4	$0,75$ ✔; 60% ✔; $\dfrac{1}{2}$ ✔	3×1 A per correct position	(3)

1.5	$1\dfrac{21}{100}$ ✔	1 C Answer	(1)

1.6		$\dfrac{51}{100}$ ✔	1 A Answer	(1)

	1.7.1	$R315{,}70$ ✔	1 A Answer	(1)

	1.7.2	$55 + 53{,}90 = 118{,}90$ ✔ $\dfrac{10}{100} \times 118{,}90 = 11{,}89$ ✔ $118{,}90 - 11{,}89 = R107{,}01$ ✔	1 A Addition 1 C Percentage 1 CA Answer	(3)

1.8	4 ✔	1 A Answer	(1)

1.9	B. Pentagon ✔	1 A Answer	(1)

1.10	$\dfrac{2}{6} = \dfrac{1}{3}$ ✔	1 A Answer	(1)

QUESTION 2   **[19]**

2.1	2.1.1	$1 : 2$ ✔	1 A Answer	(1)

	2.1.2	28 days : 21 days ✔ or 4 weeks: 3weeks ✔ $= 4 : 3$ ✔ $= 4 : 3$ ✔	1 C Concersion 1 A Answer	(2)

2.2	2.2.1	05 hours 45 minutes ✔ or 05,75 hours	1 A Answer	(1)

	2.2.2	5 hours ✔	1 A Answer	(1)

	2.2.3	$\dfrac{459\ km}{5\ h}$ ✔ $= 91{,}8\ km\,/h$ ✔	1 SF Substitution 1 CA Answer	(2)

	2.2.4	$\dfrac{459\ km}{100\ km} \times 8l$ ✔ $= 36{,}72\ l$ ✔ or $\div 100 \left\{ \begin{array}{l} 100km:\ 8\ l \\ \\ 1km\ :\ 0{,}08\ l \end{array} \right\} \div 100$ ✔ $\times 459 \left\{ \begin{array}{l} \\ \\ 459km{:}36{,}72l \end{array} \right\} \times 459$ ✔	1 M Calculation 1 A Answer	(2)

	2.2.5	Petrol cost $= R13{,}05 \times 36{,}72$ $= R479{,}20$ ✔ Total $= R479{,}20 + R168 + R114{,}90$ ✔ $= R762{,}10$ ✔	1 CA Price by litres 1 CA Addition 1CA Answer	(3)

	2.2.6	• Use social media to spread the message ✔ • Partner with many other organisation e.g SAPS Any other relevant answer	1 J Answer	(1)
	2.3.1	North East ✔	1 A Answer	(1)

	2.3.2	Emalahleni ✔	1 A Answer	(1)

	2.3.3	North ✔	1 A Answer	(1)

	2.3.4	(a) D4 ✔ (b) D1 ✔	1 A Answer 1 A Answer	(2)

	2.3.5	Mokopane ✔	1 A Answer	(1)

QUESTION 3				**[27]**

	3.1.1	55 years ✔	1 A Answer	(1)

	3.1.2	Mean = $\frac{763}{20}$ ✔ 38,15 years ✔	1 M Calculation 1 A Answer	(2)

	3.1.3	(stem-and-leaf plot)	1 A Stem 1 A All leaves correct 1 A leaves in order	(3)

Stem-and-leaf:

Stem	Leaves				
1	6	7			
2	4	5	5	6	7
3	5	6	7		
4	2	3	5	8	9
5	0	3	5	5	5
	✔		✔		✔

	3.1.4	$\frac{37 + 42}{2}$ ✔ 39,5 years ✔	1 M Calculation 1 A Answer	(2)
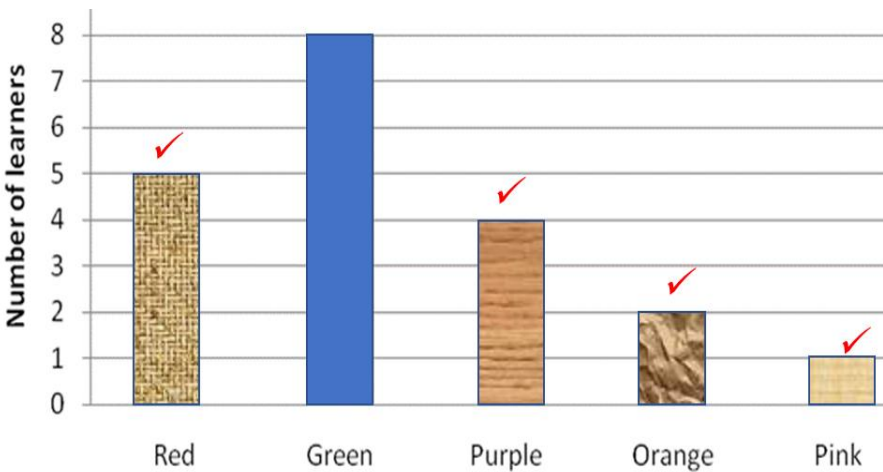
	3.1.5	55 years ✔	1 A Answer	(1)

	3.1.6	$55 - 16$ ✔ = 39 years ✔	1 M Subtraction 1 A Answer	(2)

	3.1.7	• Teenage pregnancy forced her out of school. ✔ • Lost a number of years and fell behind peers Any other relevant answer	1 J Answer	(1)

	3.2.1	(tally table)	4 ×1 A Correct Tally & Frequency together Penalise:Correct Freq Only Penalise:Correct Tally Only	(4)

Colour	Tally	Frequency
Red	~~////~~	5
Green	~~////~~ ///	8 ✔
Purple	////	4 ✔
Orange	//	2 ✔
Pink	/	1 ✔

	3.2.2		4 × 1 CA Correct Bar according to Frequency in 3.2.1	
				(4)

	3.2.3	Green ✔	1 A Answer	(1)

3.3	3.3.1	11 marbles ✔	1 A Answer	(1)

	3.3.2	$P(red) = \frac{4}{16}$ ✔ $= \frac{1}{4}$ ✔	1 A Answer 1 A Simplification	(2)

	3.3.3	$P(green) = \frac{5}{16}$ ✔	1 A Answer	(1)

	3.3.4	$P(blue\ and\ red) = \frac{0}{16} = 0$ or None ✔✔	2 A Answer	(2)

QUESTION 4				**[16]**

	4.1.1	Circle ✔	1 A Answer	(1)

	4.1.2	Hexagon ✔	1 A Answer	(1)

	4.1.3	Rectangular Prism ✔	1 A Answer	(1)

	4.1.4	Triangular Prism ✔	1 A Answer	(1)

	4.1.5	Cylinder ✔	1 A Answer	(1)

4.2	4.2.1	Radius $= 6,5\ m$ ✔	1 A Answer	(1)

	4.2.2	Perimeter $= 3.14 \times 13m$ ✔ $= 40,82\ cm$ ✔	1 SF Calculation 1 A Answer	(2)

	4.2.3	Area $= 3,14 \times (6,5\ m)^2$ ✔ $= 132,67\ m^2$ ✔	1 SF Calculation 1 A Answer	(2)

4.3		$700\ cm = 7\ m$ ✔ $TSA = 2[(7\ m \times 3m) + (7m \times 5m) + (3m \times 5m)]$ ✔ $= 142\ m^2$ ✔	1 C Conversion 1 SF Calculation 1 CA Answer	(3)
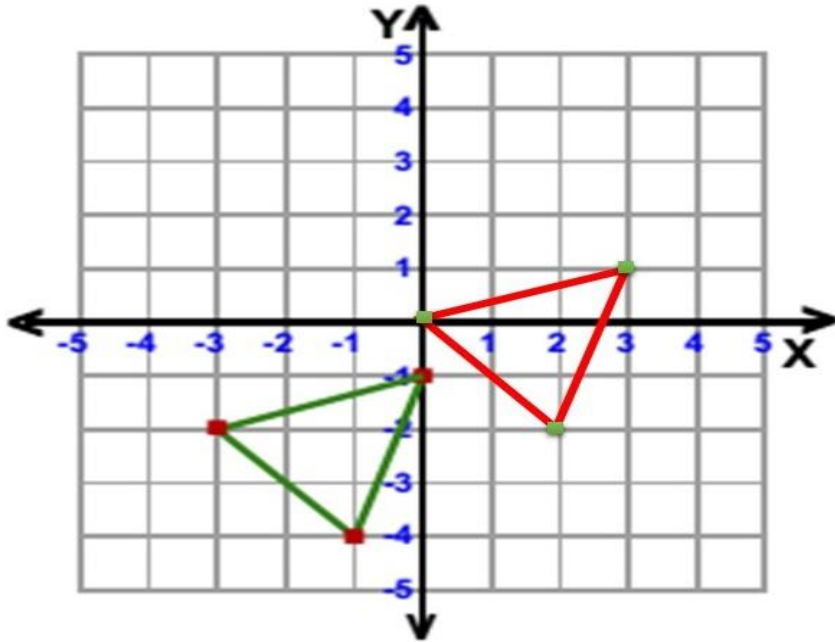
4.4	$Volume = \dfrac{1}{2} \times 8cm \times 3cm \times 12cm$ ✓ $= 144$ ✓cm^3 ✓	1 SF Calculation 1 A Answer 1 A Units	(3)

QUESTION 5			**[11]**

5.1	$AB^2 = (3m)^2 + (4m)^2$ ✓ $= 9m^2 + 16m^2$ $= 25m^2$ $\sqrt{AB} = \sqrt{25m^2}$ ✓ $AB = 5m$ ✓	1 SF Calculation 1 A Square root 1 CA Answer	(3)

5.2	$c = \sqrt{(11\,m)^2 - (7,5\,m)^2}$ ✓ $c = \sqrt{121\,m^2 - 56,25\,m^2}$ ✓ $c = \sqrt{64,75\,m^2}$ ✓ $c = 8,05\,m$ ✓	1 SF Calculation 1 S Squaring 1 S Square root 1 A Answer	(4)

5.3	Reflection ✓ about the $x-$axis. ✓	1 A Transformation 1 A Description	(2)

5.4			
✓✓		1 A Horizontal Shift 1 A Vertical Shift	(2)

	GRAND TOTAL:	**100**