

**NATIONAL  
SENIOR CERTIFICATE**

**GRADE 12**

**MATHEMATICAL LITERACY P1  
PREPARATORY EXAMINATIONS 2008  
MEMORANDUM**

**MARKS: 150**

**TYD: 3 hours**

**This memorandum consists of 6 pages.**

Symbol	Explanation
M	Method
MA	Method with Accuracy
CA	Consistent Accuracy
A	Accuracy (Answer)
C	Conversion
S	Simplification
RT / RG / RM	Reading from table / Reading from graph / Reading from map
F	Choosing the correct formula
SF	Substitution in formula
O	Opinion
P	Penalty e.g. for no units, incorrect rounding, etc
R	Rounding off / Reason

No	AS	Calculations/Workings	Marks/Comments
1.1.1	1.1	$325 - 36,3 \div 0,3 = 325 - 121 \checkmark$ $= 204 \checkmark$	M: 1 A: 1
1.1.2	1.1	$7,5\% \text{ of R}499 = 0,075 \times \text{R}499 \checkmark$ $= \text{R}37,43 \checkmark$	M: 1 for 0,075 A: 1 for answer correctly rounded off
1.1.3	1.1	$\frac{4}{5}$ of 250 learners = 200 learners $\checkmark$	A: 1
1.2.1		$\frac{11}{20} \times 100\% \checkmark$ $= 55\% \checkmark$	M: 1 A: 1
1.2.2	3.2	$2,5\text{km} = 2\,500\text{m} \checkmark$	C: 1
1.2.3	1.1	$\text{R}128 \times 0,95 \checkmark \checkmark = \text{R}121,60 \checkmark$ <b>OR</b> $0,05 \times \text{R}128 = \text{R}6,40 \checkmark$ $\text{R}128 - \text{R}6,40 \checkmark = \text{R}121,60 \checkmark$	M: 2 A: 1
1.2.4	1.1	$2\text{kg}:0,4\text{kg} = 2\,000\text{g} : 400\text{g} \checkmark$ $= 5 : 1 \checkmark$	M: 1 A: 1
1.3.1	3.1	Perimeter = $2 \times (l + b)$ $= 2(5,2\text{m} + 3,8\text{m}) \checkmark$ $= 18\text{m} \checkmark$	SF: 1 A: 1
1.3.2	3.1	Area = $l \times b$ $= 5,2\text{m} \times 3,8\text{m} \checkmark$ $= 19,76\text{m}^2 \checkmark$	SF: 1 A: 1
1.3.3	3.1	Volume of concrete = $l \times b \times h$ $= 5,2\text{m} \times 3,8\text{m} \times 0,05\text{m} \checkmark \checkmark$ $= 0,988\text{m}^3$ $\approx 1\text{m}^3 \checkmark$	SF: 1 C: 1 A: 1
1.4.1	3.1	3m	A: 1
1.4.2		$A = \pi r^2 = 3,14 \times (1,5\text{m})^2 \checkmark$ $= 7,065\text{m}^2 \checkmark$ $\approx 7,07\text{m}^2 \checkmark$	SF: 1 M: 1 A: 1

1.4.3	3.1	Circumference = $2 \times \pi \times r$ = $2 \times 3,14 \times 1,5$ ✓✓ = 9,42m ✓	SF: 1 M: 1 A: 1
1.5.1	4.2	10 boys ✓	RG: 1
1.5.2	4.2	38 learners ✓	RG: 1
1.5.3	4.2	38 – 18 ✓✓ = 20 girls ✓	RG: 1 M: 1 A: 1
1.5.4	4.5	P(Boy) = $\frac{48}{84}$ ✓✓ = $\frac{3}{7}$ ✓	M: 2 ( 1 for numerator, 1 for denominator) A: 1
			Total q 1: 35
2.1.1	2.3	50 Minutes ✓	RG: 1
2.1.2	2.3	10 km ✓	RG: 1
2.1.3	2.3	15 minutes ✓	RG: 1
2.1.4	2.3	15 km ✓	RG: 1
2.1.5	2.3	35 min – 25 min ✓ = 10 min ✓	M: 1 A: 1
2.1.6a	3.2	$\frac{15}{60}$ ✓ = 0,25 ✓	M: 1 A: 1
2.1.6b	2.3 2.1	Average speed = $\frac{15km}{0.25h}$ ✓✓ = 60 km/h ✓	SF: 2 A: 1
2.2.1	3.2	4 × 30g = 120g	M: 1 A: 1
2.2.2	3.2	560 ml ÷ 2 ✓ = 280 ml ✓	M: 1 A: 1
2.2.3	2.1	<b>Temperature in °C = (Temperature in °F - 32°) × <math>\frac{5}{9}</math></b>  = $(440 - 32) \times \frac{5}{9}$ ✓ = 226,6666... ✓ ≈ 230°C ✓	SF: 1 A: 1 R: 1
2.2.4	1.3	60 × R2,50 ✓ = R150 ✓	M: 1 A: 1
2.2.5	1.3	R90 ÷ R2,50/pancake ✓ 36 pancakes ✓	M: 1 A: 1
			Total q 2: 22
3.1.1a	2.3	4 × R12 ✓ = R48 ✓	M: 1 A: 1
3.1.1b	2.3	84 ÷ 12 ✓ = 7 hours ✓	M: 1 A: 1
3.1.2	2.3	Pay = R24 + (hours worked × R6) = R24 + 4 × R6 ✓ = R48 ✓ OR Pay = R48 (by looking at pattern in table) ✓✓	M: 1 A: 1  OR RT: 2

3.1.3	2.1	$\text{Pay} = \text{R}24 + (\text{hours worked} \times \text{R}6)$ $78 = 24 + 6 \times h \checkmark$ $54 = 6 \times h \checkmark$ $h = 9 \text{hours} \checkmark$  OR: by extending the table  <table border="1"> <tbody> <tr> <td>Hours worked</td> <td>5</td> <td>6</td> <td>7</td> <td>8</td> <td><b>9</b></td> </tr> <tr> <td>Pay in Rand</td> <td>54</td> <td>60</td> <td>66</td> <td>72</td> <td>78</td> </tr> </tbody> </table> OR: Answer only: $\checkmark \checkmark \checkmark \checkmark$	Hours worked	5	6	7	8	<b>9</b>	Pay in Rand	54	60	66	72	78	SF: 1 M: 1 A: 1  OR M: 2 A: 1  OR A: 4
Hours worked	5	6	7	8	<b>9</b>										
Pay in Rand	54	60	66	72	78										
3.1.4	2.3	Jo $\checkmark \checkmark$	RT: 2												
3.1.5 3.1.6	2.2		For 3.1.5:  1 for y-intercept of 0 2 for any two other points, e.g. (1;12) and (5;60) 1 for label  For 3.1.6: 1 for y-intercept of 24 2 for any two other points, e.g. (1;30) and (6;60) 1 for label												
3.2	1.3	$\text{€}1 = \text{R}9,93$ $\text{€}5 = \text{R}9,93 \times 5$ $= \text{R}49,65 \checkmark$ $\approx \text{R}50 \checkmark$	A: 1 R: 1												
			Total q 3: 21												
4.1.1	1.3 4.2	Pythons: $\text{R}54\,000 \checkmark$	RG: 1												
4.1.2	4.2	45% $\checkmark$	RG: 1												
4.1.3	1.3 4.2	$100\% - (45\% + 11\% + 14\%) \checkmark$ $= 30\% \checkmark$	M: 1 A: 1												
4.1.4	1.1 1.3 4.2	33% of $\text{R}54\,000$ $= 0,33 \times \text{R}54\,000 \checkmark$ $= \text{R}17\,820 \checkmark$	M: 1 A: 1												
4.1.5	1.1	$100 \times \text{R}450 \checkmark$ $= \text{R}45\,000 \checkmark$	M: 1 A: 1												

4.1.6	1.1	$1,06 \times R450 \checkmark\checkmark$ $= R477 \checkmark$ <b>OR:</b> $0,06 \times R450 \checkmark$ $= R27 \checkmark$ $R450 + R27 = R477 \checkmark$	M: 2 A: 1
4.1.7	1.3	$R42\ 000 - R35\ 000 \checkmark$ $= R7\ 000 \checkmark$	M: 1 A: 1
4.2.1	1.3	$R8\ 000 \checkmark$	RT: 1
4.2.2	1.3	$R356 \checkmark\checkmark$	RT: 2
4.2.3	1.3	No. $\checkmark$ One must earn at least R2 200 per month. $\checkmark$	A: 1 R: 1
4.2.4	1.3	$12 \times R355 \checkmark\checkmark$ $= R4\ 260 \checkmark$	RT (355): 1 M: 1 A: 1
4.3	1.2	Simple Interest = $P \times n \times r$ $= R3\ 000 \times 1 \times 0,18 \checkmark\checkmark$ $= R540 \checkmark$	SF: 2 A: 1
			Total q 4: 24
5.1.1	3.1	Volume cylinder = $\pi r^2 \times h$ $= 3,14 \times (0,4)^2 \times 1,2 \checkmark$ $= 0,60288\text{m}^3 \checkmark$ $\approx 0,6\text{m}^3 \checkmark$	SF: 1 M: 1 A: 1
5.1.2	3.2	$768\ 000\text{cm}^3 = 768\ \text{litre} \checkmark$	C: 1
5.1.3	3.2	$1\ \text{litre} = 0,22\ \text{gallon}$ $768\ \text{litre} = 768 \times 0,22 \checkmark$ $= 168,96\ \text{gallon} \checkmark$	M: 1 A: 1
5.1.4	3.1	Surface Area cylinder = $2\pi r(h+r)$ $= 2 \times 3,14 \times 0,4(1,2 + 0,4) \checkmark\checkmark$ $= 2 \times 3,14 \times 0,4 \times 1,6$ $= 4,0192 \checkmark$ $\approx 4,02\text{m}^2 \checkmark$	SF: 1 M: 1 A: 1 R: 1
5.1.5	1.1 3.1	$5 \times 1,25\text{m}^2 \checkmark$ $= 6,25\text{m}^2 \checkmark$	M: 1 A: 1
5.2.1	3.4	A3 $\checkmark$	RM: 1
5.2.2	3.4	Bree Street $\checkmark$	RM: 1
5.2.3	3.3	$5\text{cm} \times 16\ 000 \checkmark$ $= 80\ 000\text{cm} \checkmark$ $= 800\text{m} \checkmark$	M: 1 A: 1 C: 1
5.2.4	3.4	West $\checkmark$	RM: 1
5.3.1	2.1 1.1	Cost = $R250 \times n + R15\ 000$ $= R250 \times 80 + R15\ 000 \checkmark\checkmark$ $= R35\ 000 \checkmark$	SF: 1 M: 1 A: 1
5.3.2	2.1 1.1	Cost = $R250 \times n + R15\ 000$ $31\ 000 = 250n + 15\ 000 \checkmark$ $16\ 000 = 250n \checkmark$ $n = 64 \checkmark$	SF: 1 M: 1 A: 1
			Total q 5: 24

6.1.1	4.3	24 ✓	A: 1
6.1.2	4.3	24 ✓	A: 1
6.1.3	4.3	17 26 28 35 37 39 40 43 55 56 ✓✓	A: 2
6.1.4	4.3	56 - 17 ✓ = 39 ✓	M: 1 A: 1
6.1.5	4.3	(17+26+28+35+37+39+40+43+55+56) ÷ 10 ✓ = 376 ÷ 10 ✓ = 37,6 ✓	M: 1 A: 1 A: 1
6.2.1	4.4	634	RT: 1
6.2.2	4.4	7+6+6+9+5+4+2+5+6 ✓ = 50 ✓	M: 1 A: 1
6.2.3	4.3	696 - 35 ✓ = 661 ✓	M: 1 A: 1
6.2.4	1.1 4.4	0,885 × 4 899 ✓✓ = 4 335,615 ≈ 4 336 ✓ <b>OR:</b> 0,115 × 4 899 = 563 ✓ 4 899 - 563 ✓ = 4 336 ✓	M: 2 A: 1
6.2.5	1.1 4.4	$\frac{7}{272} \times 100\% \checkmark \checkmark$ = 2,57% ✓	M: 2 A: 1
6.2.6	1.1 4.4	560 : 5 ✓ = 112 : 1 ✓	RT: 1 A: 1
6.2.7	4.3	4 899 ÷ 12 ✓ = 408,25 ≈ 408 ✓	M: 1 A: 1
			Total q 6: 24
		TOTAL	150