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National Senior Certificate
Grade 12
Mathematical Literacy
Paper 1

MEMORANDUM

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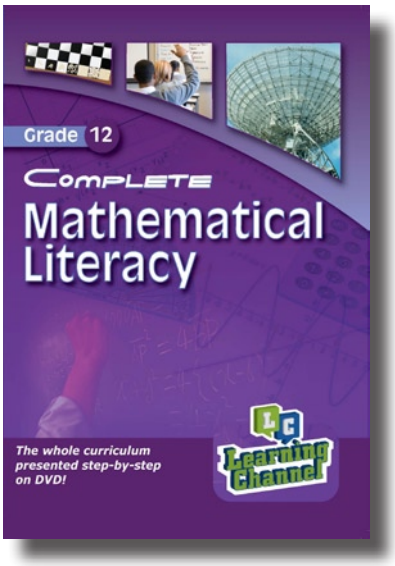
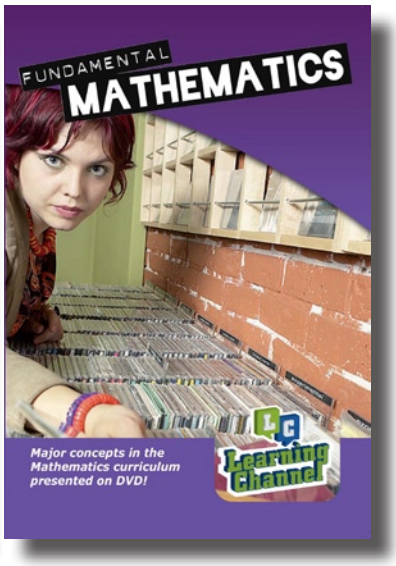




1.1 1.1.1 41,57c/kWh + 24,8% = 51,88c/kWh ✓✓ (2)

1.1.2 51,88c/kWh + 25,8% = 65,27c/kWh ✓✓

65,27c/kWh + 25,9% = 82,17c/kWh ✓✓ (4)

1.1.3 % change $= \frac{(82{,}17 - 41{,}57)}{41{,}57}$

$= 97{,}67\%$ ✓✓✓ (3)

1.2 1.2.1 24 389 GWh ✓✓ (2)

1.2.2 4% ✓✓ (2)

1.2.3 (a) 15% × 213 881 = 32 082 GWh ✓✓✓

(b) $\frac{59\ 965}{213\ 881} = 28\%$ ✓✓✓

Note – alternate approaches are possible. (6)

1.3.1 ≈ 154 (accept 154 ± 2) ✓✓ (2)

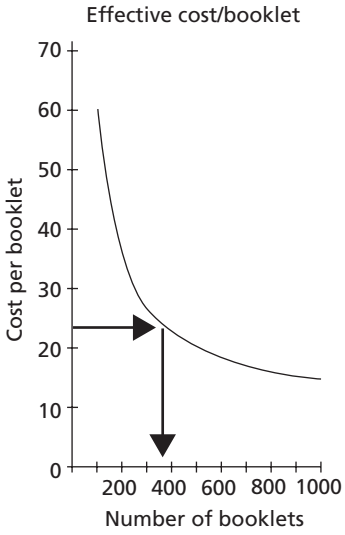
1.3.2 75% of 200 = 150 ✓✓✓ (3)

2.1

No. of booklets	100	300	500	700
Printing costs	6000	8000	10000	12000
Effective cost per booklet	R60	R26,67	R20,00	R17,14
	✓✓✓	✓✓✓	✓✓✓	✓✓✓

(12)

2.2.1



✓✓ correct points
✓✓ shape of curve
✓✓ labelling of axis (6)

2.2.2 (a) 380 ± 10 ✓✓✓

(b) see marking on graph for (2.2.1) ✓✓✓

2.3 Income – expenses = profit ✓

23 × bks – (R5 000 + 10 × bks) = R5 000 ✓✓

13 × bks = R10 000

bks ≈ 770 ✓✓ (5)

2.4 770 booklet ⇒ 800 booklets ✓

Cost = R5 000 + 8 × 1 000 = R13 000 ✓✓ (3)

3.1 Missing values only

	Debit	**Credit**	**Balance**	
20 Feb		R1 150,00	–R6 850,00	✓✓✓
28 Feb	–R137,00		–R6 987,00	✓✓✓
25 Mar		R3 450,00	–R3 537,00	✓✓✓
31 Mar	–R70,74		–R3 607,74	✓✓✓

(12)

3.2 To settle loan: income ≥ R3 607 ✓

R3 607 ÷ 23 ≈ 157 ✓✓

She must sell at least 157 booklets. (3)

3.3 To break even Maxine must also cover her own investment of R5 000.

To break even: income ≥ R5 000 ✓

R5 000 ÷ 23 ≈ R218✓✓

She must sell at least 218 booklets. ✓ (4)

4.1 4.1.1 R46 000 ✓✓ (2)

4.1.2 R12 960 ✓✓ (2)

4.2 R95 000 × 18% = R17 100 ✓✓

R17 100 – rebate = R17 100 – R8 280✓✓ = R8 820 ✓ (5)

4.3 4.3.1 Tax payable = R70 650 + (R350 000 – R305 000) × 35% – R8 280 ✓✓✓

= R70 650 + R15 750 – R8 280

= R78 120 ✓✓ (5)

4.3.2 Effective tax rate = $\frac{78\ 120}{350\ 000}$ ✓

= 22,32%✓✓ (3)

5.1 5.1.1 1 day ✓✓ (2)

5.1.2 7 days ✓✓ (2)

5.1.3 2 tablets daily ✓✓ (2)

5.2 1 day before trip + 10 days of trip + 7 days after trip = 18 days ✓✓✓

18 days = 18 tablets ✓ (4)

5.3 5.3.1 Adult tablets:

2 × (1 day + 8 days + 7 days) ✓✓✓ = 2 × 16 days

= 32 days

= 32 adult tablets ✓✓ (5)

5.3.2 Child 1 (18 kg) = 16 days × 1 tablet/day

= 16 tablets ✓✓

Child 2 (36 kg) = 16 days × 3 tablet/day

= 48 tablets ✓✓

∴ 64 pediatric tablets ✓✓ (6)

5.3.3 Cost = 32 × 12 + 64 × 8 = R896 ✓✓✓ (3)

6.1 The first sheet is 40 m long. ✓

The second sheet overlaps the first sheet by 1 m leaving 39 m of additional plastic to cover the pitch.✓✓

40 m + 39 m = 79 m ✓

Since 79 m > 78 m – this sheet will cover the pitch and surroundings from one side to the other. ✓ (5)

6.2 Working edge to edge, the sheets cover:

17 m + 16 m + 16 m + 16 m + … ✓✓✓

The total distance to be covered must be > 115 m ✓

∴ 8 widths will be needed ✓✓

(check 17 + 7 × 16 = 129 m) (6)

6.3 Number of rolls needed = 2 × 8 = 16 ✓✓ (2)

6.4 Area of pitch and surroundings = 115 m × 78 m

= 8 970 m^2 ✓✓

Total area of canvas = 16 × 40 m × 17 m = 10 880 m^2 ✓✓

$$\% \text{ extra} = \frac{10\,880 - 8\,970}{8\,970} \approx 21\% \text{ extra } ✓✓$$ (6)

7.1 7.1.1 Cigarettes, glue, alcohol and cannabis ✓✓ (2)

7.1.2 ≈ 32% ✓✓ (2)

7.1.3 ≈ 100% – 25% = 75% ✓✓ (2)

7.2 % using alcohol after 16

≈ 80% – 34% = 46% ✓✓

∴ number = 46% × 470 ≈ 220 ✓✓✓ (5)

7.3 We cannot say. Some students may have used more than one of the substances listed. Since the totals of usage for all of the substances exceed 100%, it is possible that all of the respondents used one (or more) of the substances and we cannot be sure that any respondent used none. ✓✓✓✓ (4)