



Learning Channel (Pty) Ltd
3rd Floor, The Mills
66 Carr Street
Newtown
Johannesburg
(011) 639-0179

Website: www.learn.co.za

National Senior Certificate

Grade 12

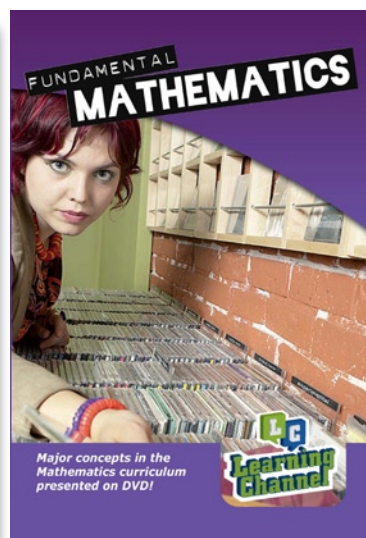
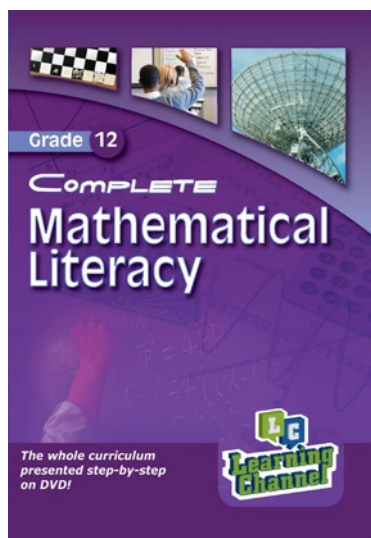
Mathematical

Literacy

Paper 1

MEMORANDUM

Other products for Mathematical Literacy available from Learning Channel:



1.1 1.1.1 $41,57\text{c/kWh} + 24,8\% = 51,88\text{c/kWh}$ ✓✓ (2)

1.1.2 $51,88\text{c/kWh} + 25,8\% = 65,27\text{c/kWh}$ ✓✓

$65,27\text{c/kWh} + 25,9\% = 82,17\text{c/kWh}$ ✓✓ (4)

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

$= 97,67\%$ ✓✓✓ (3)

1.2 1.2.1 24 389 GWh ✓✓ (2)

1.2.2 4% ✓✓ (2)

1.2.3 (a) $15\% \times 213\,881 = 32\,082\text{ GWh}$ ✓✓✓

(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 (12)

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

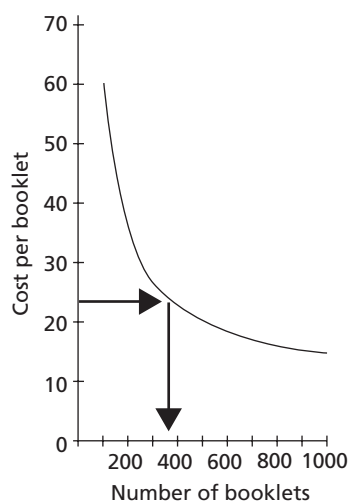
✓✓✓

✓✓✓

✓✓✓

✓✓✓

2.2.1 Effective cost/booklet



✓✓ 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 ✓

$23 \times \text{bks} - (\text{R}5\,000 + 10 \times \text{bks}) = \text{R}5\,000$ ✓✓

$13 \times \text{bks} = \text{R}10\,000$

$\text{bks} \approx 770$ ✓✓ (5)

2.4 770 booklet $\Rightarrow$ 800 booklets ✓

Cost = $\text{R}5\,000 + 8 \times 1\,000 = \text{R}13\,000$ ✓✓ (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 $\geq$ R3 607 ✓

$$R3\ 607 \div 23 \approx 157 \checkmark\checkmark$$

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 $\geq$ R5 000 ✓

$$R5\ 000 \div 23 \approx R218 \checkmark\checkmark$$

She must sell at least 218 booklets. ✓

(4)

$$4.1 \quad 4.1.1 \quad R46\ 000 \checkmark\checkmark$$

(2)

$$4.1.2 \quad R12\ 960 \checkmark\checkmark$$

(2)

$$4.2 \quad R95\ 000 \times 18\% = R17\ 100 \checkmark\checkmark$$

$$R17\ 100 - \text{rebate} = R17\ 100 - R8\ 280 \checkmark\checkmark = R8\ 820 \checkmark$$

(5)

$$4.3 \quad 4.3.1 \quad \text{Tax payable} = R70\ 650 + (R350\ 000 - R305\ 000) \times 35\% - R8\ 280 \checkmark\checkmark\checkmark$$

$$= R70\ 650 + R15\ 750 - R8\ 280$$

$$= R78\ 120 \checkmark\checkmark$$

(5)

$$4.3.2 \quad \text{Effective tax rate} = \frac{78\ 120}{350\ 000} \checkmark$$

$$= 22,32\% \checkmark\checkmark$$

(3)

$$5.1 \quad 5.1.1 \quad 1 \text{ day } \checkmark\checkmark$$

(2)

$$5.1.2 \quad 7 \text{ days } \checkmark\checkmark$$

(2)

$$5.1.3 \quad 2 \text{ tablets daily } \checkmark\checkmark$$

(2)

$$5.2 \quad 1 \text{ day before trip} + 10 \text{ days of trip} + 7 \text{ days after trip} = 18 \text{ days } \checkmark\checkmark\checkmark$$

$$18 \text{ days} = 18 \text{ tablets } \checkmark$$

(4)

5.3 5.3.1 Adult tablets:

$$2 \times (1 \text{ day} + 8 \text{ days} + 7 \text{ days}) \checkmark\checkmark\checkmark = 2 \times 16 \text{ days}$$

$$= 32 \text{ days}$$

$$= 32 \text{ adult tablets } \checkmark\checkmark$$

(5)

$$5.3.2 \quad \text{Child 1 (18 kg)} = 16 \text{ days} \times 1 \text{ tablet/day}$$

$$= 16 \text{ tablets } \checkmark\checkmark$$

$$\text{Child 2 (36 kg)} = 16 \text{ days} \times 3 \text{ tablet/day}$$

$$= 48 \text{ tablets } \checkmark\checkmark$$

$$\therefore 64 \text{ pediatric tablets } \checkmark\checkmark$$

(6)

$$5.3.3 \quad \text{Cost} = 32 \times 12 + 64 \times 8 = R896 \checkmark\checkmark\checkmark$$

(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. ✓✓
 $40 \text{ m} + 39 \text{ m} = 79 \text{ m}$ ✓
 Since $79 \text{ m} > 78 \text{ m}$ – this sheet will cover the pitch and surroundings from one side to the other. ✓ (5)
- 6.2 Working edge to edge, the sheets cover:
 $17 \text{ m} + 16 \text{ m} + 16 \text{ m} + 16 \text{ m} + \dots$ ✓✓✓
 The total distance to be covered must be $> 115 \text{ m}$ ✓
 $\therefore$ 8 widths will be needed ✓✓
 (check $17 + 7 \times 16 = 129 \text{ m}$) (6)
- 6.3 Number of rolls needed $= 2 \times 8 = 16$ ✓✓ (2)
- 6.4 Area of pitch and surroundings $= 115 \text{ m} \times 78 \text{ m}$
 $= 8\,970 \text{ m}^2$ ✓✓
 Total area of canvas $= 16 \times 40 \text{ m} \times 17 \text{ m} = 10\,880 \text{ m}^2$ ✓✓
 $\% \text{ extra} = \frac{10\,880 - 8\,970}{8\,970} \approx 21\% \text{ extra}$ ✓✓ (6)
- 7.1 7.1.1 Cigarettes, glue, alcohol and cannabis ✓✓ (2)
 7.1.2 $\approx 32\%$ ✓✓ (2)
 7.1.3 $\approx 100\% - 25\% = 75\%$ ✓✓ (2)
- 7.2 % using alcohol after 16
 $\approx 80\% - 34\% = 46\%$ ✓✓
 $\therefore$ number $= 46\% \times 470 \approx 220$ ✓✓✓ (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)