

Maths Literacy Paper 1 – Suggested Solutions

Question 1:

$$\begin{aligned} 1.1.1 \quad \text{Profit} &= 50,74 - 43 \\ &= R7,74 \end{aligned} \quad (2)$$

$$\begin{aligned} 1.1.2 \quad \text{Increase} &= 35 - 28 \\ &= R7 \\ \text{Percentage increase} &= \frac{7}{28} \times 100 \\ &= 25\% \end{aligned} \quad (3)$$

$$\begin{aligned} 1.1.3 \quad \text{Mark up} &= 15\% \times 76 \\ &= R11,40 \\ \therefore \text{Selling price} &= 76 + 11,40 \\ &= R78,40 \end{aligned} \quad (3)$$

$$\begin{aligned} 1.1.4 \quad \text{Selling price} &= \text{Cost price} \times 120\% \\ \therefore \text{Cost price} &= \frac{\text{selling price}}{120\%} \\ &= \frac{60}{120\%} \\ &= R50 \end{aligned} \quad (3)$$

$$\begin{aligned} 1.1.5 \quad 1 \text{ kg lambchops} &= 1 \times 35 = R35 \\ 0,8 \text{ kg mincemeat} &= 0,8 \times 60 = R48 \\ 0,5 \text{ kg spare ribs} &= 0,5 \times 50,74 = R25,37 \end{aligned}$$

$$\begin{aligned}\therefore \text{Order} &= 35 + 48 + 25,37 \\ &= \text{R}108,37\end{aligned}\tag{4}$$

1.1.6 Cost of order:

$$1 \text{ kg lambchops} = 1 \times 28 = \text{R}28$$

$$0,8 \text{ kg mincemeat} = 0,8 \times 50 = \text{R}40$$

$$0,5 \text{ kg spare ribs} = 0,5 \times 43 = \text{R}21,50$$

$$\therefore \text{Total cost} = 28 + 40 + 21,50$$

$$= \text{R}89,50$$

$$\text{Mr Souvlaki's profit} = \text{R}108,37 - \text{R}89,50$$

$$= \text{R}18,87\tag{6}$$

1.2.1 2,2 pounds = 1 kg

$$\therefore 1 \text{ pound} = \frac{1}{2,2} \text{ kg}$$

$$= 0,45 \text{ kg}\tag{2}$$

1.2.2 2 kg = 2 × 2,2 pounds

$$= 4,4 \times 16 \text{ ounces}$$

$$= 70,4 \text{ ounces}\tag{3}$$

1.2.3 3 pounds = 3 × 0,45 kg

$$= 1,35 \text{ kg}$$

$$\therefore \text{Cost} = 1,35 \times 60$$

$$= \text{R}81\tag{3}$$

Question 2:

2.1.1 Revenue = $80x$ (2)

2.1.2 Total cost = $6\,256 + 12x$ (3)

2.1.3 a) $6\,256 + 12(20) = R6\,496$

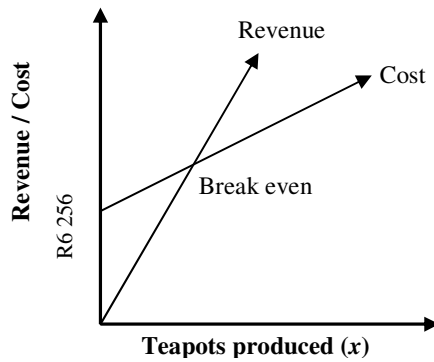
b) $6\,256 + 12(40) = R6\,736$ (3)

2.1.4 Profit per teapot = $80 - 12$
= R68 (2)

2.1.5 Any estimate close to 92 is acceptable.

Students may obtain 92 by dividing the fixed costs by the profit per unit $\frac{6256}{68} = 92$. (2)

2.1.6



(5)

2.2.1 Selling price in England = $\frac{80}{14}$
= £5,71 (2)

$$\begin{aligned} 2.2.2 \quad \text{Teapots purchased} &= \frac{40}{5,71} \\ &= 7 \end{aligned} \tag{2}$$

2.2.3 This is bad for business. Since English customers are still paying the same price (£5,71), a stronger Rand will result in less income for him. Instead of receiving R80, he will receive $5,71 \times 13 = R74,23$. His profit will be eroded by R5,77.

Accept any reasonable argument demonstrating that a stronger Rand will mean that the pounds he receives are worth less, and therefore that he will earn less income. (3)

Question 3:

$$\begin{aligned} 3.1.1 \quad \text{Radius} &= \frac{1}{3} \times \text{height} \\ &= \frac{1}{3} \times 12 \\ &= 4 \text{ cm} \end{aligned} \tag{1}$$

$$\begin{aligned} 3.1.2 \quad \text{Volume} &= \pi(4)^2(12) \\ &= 603,19 \text{ cm}^3 \\ &= 603,19 \text{ ml} \\ &= 0,6 \text{ litres} \end{aligned} \tag{3}$$

3.1.3 6 cm is half of the height, so the tin is half full.

$$\begin{aligned} \text{Volume} &= \frac{1}{2} \times 0,6 \text{ litres} \\ &= 0,3 \text{ litres} \end{aligned}$$

Students could also rework using $\text{Volume} = \pi(4)^2(6)$ (2)

$$\begin{aligned} 3.1.4 \quad \text{Surface area} &= 2\pi(4)^2 + 2\pi(4)(12) \\ &= 32\pi + 96\pi \\ &= 402,12 \text{ cm}^2 \end{aligned} \tag{3}$$

$$\begin{aligned} 3.1.5 \quad \text{Volume} &= 603,19 \text{ ml} \\ \text{Cost of liquid} &= 0,3 \times \frac{603,19}{50} \quad (30 \text{ cents} = \text{R}0,3) \\ &= \text{R}3,62 \\ \text{Surface area} &= 402,12 \text{ cm}^2 \end{aligned}$$

$$\therefore \text{Cost of tin} = 0,01 \times 402,12 \quad (1 \text{ cent} = \text{R}0,01)$$

$$= \text{R}4,02$$

$$\text{Total cost} = 3,62 + 4,02$$

$$= \text{R}7,64 \quad (5)$$

3.2.1 REFER TO PRINTED VERSION AND FILL IN (2)

3.2.2 Distance = Measured distance $\times 1\,000\,000$

$$= \dots \text{ mm} \times 1\,000\,000$$

$$= \dots \text{ km} \times 1\,000$$

$$=$$

(3)

3.2.3 Time = $\frac{\text{previous answer}}{75}$

$$= \dots \text{ hours}$$

$$= \dots \text{ hours and minutes} \quad (3)$$

3.2.4 9 (excluding Cape Town) (1)

3.2.5 Bredasdorp (1)

3.3 Shaded area = Rectangle – semi circle

$$= (2,6 \times 6) - \frac{1}{2}(\pi)\left(\frac{2,6}{2}\right)^2$$

$$= 15,6 - 2,65$$

$$= 12,95 \text{ m}^2 \quad (5)$$

Question 4:

4.1 Median = 20 (2)

4.2 Mean = $\frac{1+12+16+20+26+29+34}{7}$
= $\frac{138}{7}$
= 19,71 (2)

4.3 Percentage = $\frac{16}{40} \times 100$
= 40 % (3)

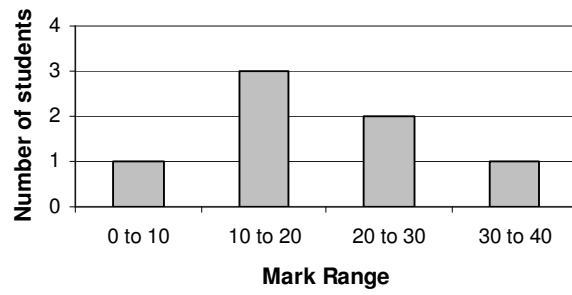
4.4 Range = 34 - 1
= 33 (1)

4.5 Average. The average mark was very close to 50 %. There was a full range of results, ranging from very poor to very good. The fact that 3 had over 50 % and 3 had under 50 % suggests an average performance. (3)

- 4.6 a) 3
b) 2 (2)

4.7

Quiz Performance



(3)

4.8 Percentage = $\frac{2}{7} \times 100$
 = 28,57 %

(2)