

**MATHS LITERACY PAPER 1 - SOLUTIONS**

**QUESTION ONE**

1.1.

1.1.1.  $-55\checkmark\checkmark$

1.1.2.  $11,25\checkmark\checkmark$

1.1.3.  $28,65\checkmark\checkmark$

1.1.4.  $\frac{R29,95}{5} = R5,99\checkmark\checkmark$

1.2.

1.2.1.  $3 \times 1000\checkmark = 3\ 000m\checkmark$

1.2.2.  $5 \times 1000\checkmark = 5\ 000g\checkmark$

1.2.3.  $500 \times 12,55 = R6\ 275\checkmark$

1.2.4. Temp in  $^{\circ}F = 125\checkmark \times \frac{9}{5} + 32 = 257^{\circ}F\checkmark\checkmark$

1.3.  $8\%$  of  $1\ 250 = 100\checkmark$   
 $1\ 250 - 100\checkmark = 1\ 150\checkmark$

1.4.  $14\%$  of  $R2\ 250 = R315\checkmark$   
 Total cost =  $R2\ 250 + R315\checkmark = R2\ 565\checkmark$

1.5.  $C = 2 \times \pi \times r = 2 \times 3,14 \times 80\checkmark = 502,4\checkmark \approx 502mm\checkmark$

**25 MARKS**

**QUESTION TWO**

2.1.  $P = R7\ 000$ ;  $n = 10$  years

2.1.1.

$$A = P(1 + i)^n$$

$$= 7\ 000 \left(1 + \frac{8\checkmark}{100 \times 12\checkmark}\right)^{10 \times 12\checkmark}$$

$$= 7\ 000 \left(1 + \frac{8}{1200}\right)^{120}$$

$$= R15\ 537,48\checkmark$$

2.1.2.

$$A = P(1 + i)^n$$

$$= 7\ 000 \left(1 + \frac{9,5\checkmark}{100}\right)^{10\checkmark}$$

$$= R17\ 347,59\checkmark$$

2.1.3. MoMone $\checkmark$

MoMoney offers a greater return on her investment.  $\checkmark$

2.1.4.  $R17\ 347,59 - R7\ 000\checkmark = R10\ 347,59\checkmark$

2.1.5. **Compounded Monthly:**

Interest is calculated 12 times over a year; calculation is done at the end of every month.  $\checkmark$

**Compounded Annually:**

Interest is calculated only once over a year; at the end of the year  $\checkmark$

2.2.

2.2.1. (a) Colesberg✓

2.2.1. (b) Mossel Bay✓

2.2.2. (a) N1✓; N12✓

2.2.2. (b) N3✓; N2✓

2.3. Beaufort West✓; Colesberg✓

2.4. N4✓ and N1✓

$$2.5. 110 \checkmark = \frac{\text{DISTANCE} \checkmark}{5,5}$$

$$\text{Distance} = 110 \times 5,5 \checkmark \approx 605\text{KM} \checkmark$$

27 MARKS

### QUESTION THREE

3.1.

3.1.1.  $3 \checkmark \times P + 30 \checkmark$

3.1.2.  $M = 40 \checkmark \checkmark$ ;  $N = 330 \checkmark \checkmark$

3.1.3. See Graph

3.2.

3.2.1.  $P = 40 \checkmark$ ;  $Q = 200 \checkmark$ ;  $R = 100 \checkmark$

3.2.2. See Graph

3.3.

3.3.1.  $30 \checkmark \checkmark$

3.3.2. Loss; ✓ The income graph is lower (below) the cost graph at  $x = 10$ . ✓

3.3.3. Cost:  $3 \times P + 30$ :  $3 \times 70 + 30 = R240 \checkmark$

Income:  $4 \times P$ :  $4 \times 70 = R280 \checkmark$

$R280 - R240 = R40 \checkmark$

3.3.4. Cost =  $3 \times 50 + 30 = R180 \checkmark$

Income =  $4 \times 30 = R120 \checkmark$

$R120 - R180 = -R60$

He will experience a loss. ✓

3.4.

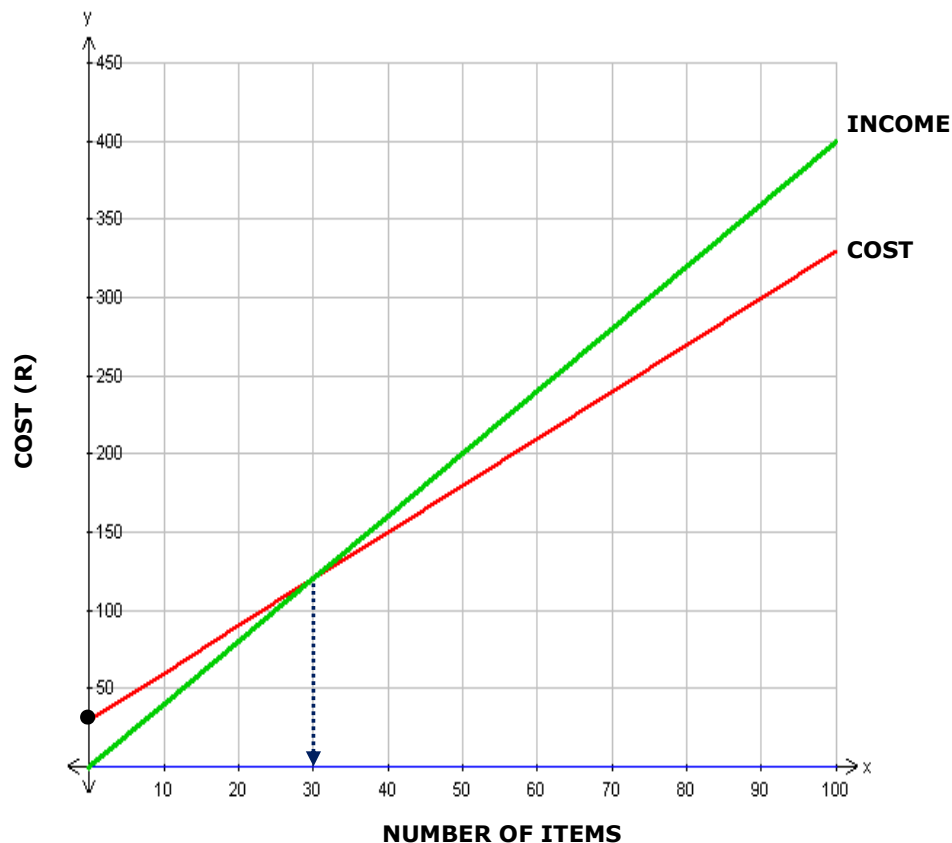
3.4.1.  $\frac{20}{90} = \frac{2}{9} = 0,22 = 22\% \checkmark$

3.4.2.  $\frac{25}{90} = \frac{5}{18} = 0,28 = 28\% \checkmark$

3.4.3.  $15 + 20 + 30 \checkmark = 65 \checkmark$

$\frac{65}{90} = \frac{13}{18} = 0,72 = 72\% \checkmark$

**GRAPHS OF INCOME AND COST**



**QUESTION FOUR**

4.1.  $2(L+B) = 2(32+22) \checkmark = 108m \checkmark \checkmark$

4.2.  $V = \pi \times r \times r \times d = 3,14 \times 3,5 \checkmark \times 3,5 \checkmark \times 4,75 = 182,71m^3 \checkmark$

$V = 180 \text{ kl} \checkmark \checkmark$

4.2.1.  $3,5 \text{ kl} \rightarrow 1 \text{ h}$

$182,71 \rightarrow x \text{ h}$

$x = \frac{182,71}{3,5} \checkmark = 52,2 \text{ hours} \checkmark$

4.3.

4.3.1.  $A = L \times B = 4,5 \times 7,5 \checkmark = 33,75m^2 \checkmark \checkmark$

4.3.2.  $R33,75 \times R195,95 \checkmark = R6\ 613,3125 \checkmark = R6\ 613,31 \checkmark$

4.4.

4.4.1.

Total area =  $32 \times 22 \checkmark = 704m^2 \checkmark$

Braai area =  $33,75m^2$

Pool area =  $\pi \times r \times r = 3,14 \times 3, \checkmark \times 3,5 \checkmark = 38,465m^2 \checkmark$

Grass area =  $704 - 33,75 - 38,465 \checkmark = 631,785m^2 \checkmark$

4.4.2.  $15\% \text{ of } R15\ 500 \checkmark = R2\ 325 \checkmark$

$R15\ 500 - R2\ 325 = R13\ 175 \checkmark$

**27 MARKS**

### QUESTION FIVE

- 5.1.  
 5.1.1. 25✓  
 5.1.2. Make C✓✓  
 5.1.3. Sales increased for all the models in the last quarter. ✓  
 Many people receive their bonuses (13<sup>th</sup> cheque) in December. ✓
- 5.2.  
 5.2.1. Intersection A:  $351 + \dots + 352 = 2\,071$ ✓  
 $\frac{2071}{10} = 207,1$ ✓  
 Intersection B:  $455 + \dots + 468 = 2\,872$ ✓  
 $\frac{2872}{10} = 287,2$ ✓  
 5.2.2. 96; 100; 102; 155; 210; 235; 245; 245; 332; 351✓  
 Median =  $\frac{(210 + 235)}{2} = 222,5$ ✓✓  
 5.2.3. B✓  
 5.2.4. 325✓✓  
 5.2.5. B✓ – More traffic volume or busier during peak traffic. ✓

**20 MARKS**

- 6.3.  $12\% \text{ of } 2\,573 = 308,76$ ✓  
 $2\,573 + 308,76 = 2881,76 \approx 2882$ ✓
- 6.4.  $\frac{2\,967}{8\,918} \times 100 = 33,3\%$ ✓
- 6.5.  $50 \rightarrow 100\,000$   
 $100 \rightarrow 200\,000$ ✓  
 100 people✓
- 6.5.1.  $\frac{100}{200\,000} \times 100 = 0,05\%$ ✓
- 6.6.  $\frac{2\,967}{2} \rightarrow \frac{182}{2}$ ✓  
 $1483,5 \rightarrow 91$   
 Divide by 2 again:  
 $\frac{1483,5}{2} \rightarrow \frac{91}{2}$ ✓  
 $741,75 \rightarrow 45,5$   
 $742 \rightarrow 46$

Therefore approximately 740 to 750✓ people could have been sampled.

### QUESTION SIX

- 6.1.  
 6.1.1. 2 573 000✓✓  
 6.1.2. 1 925 000✓✓  
 6.2. The Americas✓✓

**19 MARKS**