



**higher education
& training**

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

GENERAL EDUCATION AND TRAINING CERTIFICATE

NQF LEVEL 1

AET LEVEL 4 SITE-BASED ASSESSMENT

**LEARNING AREA : MATHEMATICS AND
MATHEMATICAL SCIENCES**

CODE : MMSC4

TOOL : INVESTIGATION

TIME : 3 HOURS

MARKS : 50

This assessment tool consists of 3 pages.

INSTRUCTIONS AND INFORMATION FOR THE TEACHER.

1. This task is set on:
 - US ID 7452
 - US ID 7453
2. This investigation should be done in pairs. Each member should however write his/her own work.
3. ACTIVITY1 and 2 must be marked using the memorandum provided.
4. A class discussion may be conducted before or during completion of the task.
5. Learners can complete their work at home.

ACTIVITY 1

- | | | | |
|-----|-------|--|-----|
| 1.1 | 1.1.1 | The graph shows how much shampoo the hairdresser requires per customer. ✓✓ | (2) |
| | 1.1.2 | Shampoo required = $30 \text{ ml} \times (\text{number of customers})$ ✓✓ | (2) |
| | 1.1.3 | Shampoo used. ✓ Because the amount of shampoo used is calculated on the number of customers visiting the salon. ✓ | (2) |
| | 1.1.4 | Shampoo required = $30 \text{ ml} \times (\text{number of customers})$
$= 30(c) = 30(2) \checkmark = 60 \text{ ml} \checkmark$
$= 30(c) = 30(4) \checkmark = 120 \text{ ml} \checkmark$
$= 30(c) = 30(8) \checkmark = 240 \text{ ml} \checkmark$
OR
[Any other values from horizontal axis can be used] | (6) |
| | 1.1.5 | more ✓ | (1) |
| | 1.1.6 | Direct proportion ✓ | (1) |
| 1.2 | 1.2.1 | Number of days = $750 \text{ ml} \div [30 \text{ ml} \times \text{no. customers}]$ ✓✓ | (2) |
| | 1.2.2 | 2,5 days ✓ | (1) |
| | | One 750 ml bottle will serve 25.
\therefore 2 bottles will serve 50 customers. ✓✓ | (2) |
| | 1.2.4 | Indirect proportion. The more the number of customers the lesser the number of days the 750 ml shampoo will last. | (2) |

1.2.5 $Number\ of\ days = 750\ ml \div [30\ m\ell \times no.\ customers]$

$$Number\ of\ days = \frac{750}{5(30)} \checkmark = \frac{750}{150} = 5\ days \checkmark$$

$$Number\ of\ days = \frac{750}{15(30)} \checkmark = \frac{750}{450} = 1,67\ days \checkmark$$

$$Number\ of\ days = \frac{750}{50(30)} \checkmark = \frac{750}{1\ 500} = 0,5\ day / \frac{1}{2}\ a\ day \checkmark$$

Accept any values which will satisfy the rule.

(6)

1.3 It implies that more shampoo will be needed and that the 750 mℓ bottle of shampoo will not last long. ✓✓✓

(3)

[30]

ACTIVITY 2

Mark this activity using the rubric on page 4

QUESTION 2.1

Example of the combinations

Perimeter (m)	Width (m)	Length (m)	Area (m ²)
150	5	140	700
150	7✓	136✓	952✓✓
150	15✓	120✓	1800✓✓
150	20✓	110✓	2200✓✓
150	6✓	138✓	828✓✓

- Two values of width ✓✓
- Two values of length ✓✓
- Two values of area ✓✓✓✓ (Any values of relevant width and length)

(8)

2.2 Trying more combinations including those in QUESTION 2.1

$$l \times b =$$

$$90 \times 30 = 2700 \checkmark$$

$$80 \times 35 = 2800 \checkmark$$

$$75 \times 37,5 = 2812,5$$

Therefore the maximum area is 2812,5 m² ✓✓

(4)

2.3 When the sizes of the length become closer to the sizes of the width the area becomes bigger. ✓✓

(2)

2.4 $Area = 2 \times 10\ m \times 130\ m = 2600\ m^2 \checkmark \checkmark$

(2)

- 2.5
- For fresh vegetables ✓
 - Saving money ✓
 - Eating healthy food ✓
 - Poverty alleviation ✓
 - For business purposes

(4)

(Any 4 × 1)

TOTAL:

[20]
50