



higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

GENERAL EDUCATION AND TRAINING CERTIFICATE

NQF LEVEL 1

ABET LEVEL 4 SUMMATIVE ASSESSMENT

**LEARNING AREA : MATHEMATICS AND
MATHEMATICAL SCIENCES**

CODE : MMSC4

TOOL : ASSIGNMENT

TIME : TWO WEEKS

MARKS : 50

This assessment tool consists of 4 pages.

INSTRUCTION AND INFORMATION FOR THE TEACHER

1. This assignment is based on Unit Standards ID 7453 and can be given while the Unit Standards title is taught.
 2. SECTION A is a group activity and SECTION B is an individual activity.
 3. The principle of consistence accuracy when marking (CA marks) should be applied.
 4. After the groups have completed SECTION A, learners should do SECTION B individually.
 5. Section B **MUST** be done under controlled situation.
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SECTION A

- Divide in groups of 2- 3
- Each group must work out the sums on the answer sheet together.

ACTIVITY 1

1.1	$4a✓$	Correct answer	(1)
1.2	$x✓$	Correct answer	(1)
1.3	$-5p✓$	Correct answer	(1)
1.4	$-72✓$	Correct answer	(1)
1.5	$3p^9✓$	Correct answer	(1)

ACTIVITY 2

2.1	$2xy(3x^2y^2 - 4xy - 5)$ $= 6x^3y^3 - 8x^2y^2 - 10xy✓✓✓$	1 mark for each term	(3)
2.2	$2x - 3(x - y - z)$ $= 2x - 3x + 3y + 3z✓✓$ $= -x + 3y + 3z$	1 mark for two terms	(2)
2.3	$= (2a - 1)(2a - 1) - (a^2 - 2a + 1)$ $= 4a^2 - 4a + 1 - a^2 + 2a - 1✓$ $= 3a^2 - 2a✓✓$	1 mark for simplification 1 mark for each term	(2)

ACTIVITY 3

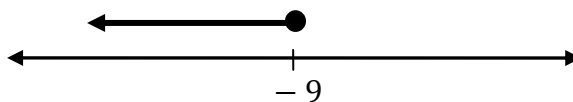
3.1	$5t^2(2 + t)✓✓$	1 mark for common factor and 1 mark for bracket	(2)
3.2	$(7a - 3b)(7a + 3b)✓✓$	1mark for each bracket	(2)

$ \begin{aligned} 3.3 \quad &= 6pq - 3pq - 2wq + wz \\ &= (6pq - 3pq) - (2wq - wz) \\ &= 3p(2q - z) - w(2q - w) \\ &= (2q - z)(3p - w) \checkmark \checkmark \end{aligned} $	1 mark for each bracket (2)
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ACTIVITY 4

$ \begin{aligned} 4.1 \quad &x(3x - 1) = 0 \\ &x = 0 \checkmark \text{ or } 3x - 1 = 0 \\ &x = \frac{1}{3} \checkmark \end{aligned} $	1 mark for each value of x (2)
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$ \begin{aligned} 4.2 \quad &2x + x = 150^\circ \checkmark \\ &3x = 150^\circ \\ &x = 50^\circ \checkmark \end{aligned} $	1 mark formula 1 mark for correct answer (2)
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$ \begin{aligned} 4.3 \quad &2x + 1 \leq -17 \\ &2x \leq -18 \checkmark \\ &x \leq -9 \checkmark \end{aligned} $ 	1 mark for the answer 1 mark for correct diagram (3)
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SECTION B

INDIVIDUAL WORK

ACTIVITY 1

The following expression in x given : $4x^6 - x^2y + x^3y^2 - 2 - x$

1.1	$5 \checkmark$		Correct answer (1)
1.2	$4 \checkmark$		Correct answer (1)
1.3	$3 \checkmark$		Correct answer (1)
1.4	$-2 \checkmark$		Correct answer (1)
1.5	(a) Binomial \checkmark (b) trinomial \checkmark		Correct answers (2)

ACTIVITY 2

2.1	$= \checkmark$		Correct answer (1)
2.2	$< \checkmark$		Correct answer (1)

2.3	$>✓$	Correct answer	(1)
2.4	$\begin{array}{r} 4a - 2b - c \\ 9a - 4b - c \\ \hline -5a + 2b \end{array} ✓✓$	Subtraction 1 mark for each correct answer	(2)

ACTIVITY 3

3.1	$\begin{array}{l} 2x + x = 15 ✓ \\ 3x = 15 \\ x = 5 ✓ \\ \text{Thandi scored } 2 \times 5 = 10 \text{ goals } ✓ \end{array}$	1 mark for formula 1 mark for Simplification 1 mark for correct answer	(3)
3.2	$\begin{array}{l} \text{Let the width be } x \\ \text{The length is } 2x - 3 \\ \text{Perimeter} = 2l + 2b \\ 2(2x - 3) + 2x = 20 ✓ \\ 6x - 6 = 20 ✓ \\ x = \frac{26}{6} ✓ \\ \text{Breadth} = \frac{26}{6} / 4 \frac{1}{3} \text{ cm} \\ \text{Length} = 2 \left(4 \frac{1}{3} \text{ cm} \right) - 3 \text{ cm} = 5 \frac{2}{3} \text{ cm } ✓ \end{array}$	1 mark for correct equation 1 mark for Simplification 1 mark for correct breadth 1 mark for correct length	(4)
3.3.1	$\begin{array}{l} 3(x + 2) = 54 \\ 3x + 6 = 54 \\ 3x = 48 ✓ \\ x = 16 ✓ \end{array}$	1 mark for Simplification 1 mark for correct answer	(2)
3.3.2	$\begin{array}{l} \frac{x}{2} = 32 \\ x = 64 ✓ \end{array}$	1 mark for correct answer	(1)
3.4	$\begin{array}{l} = 4(3)(-1)^2 ✓ \\ = 12 ✓ \end{array}$	1 mark for substitution 1 mark for correct answer	(2)
3.5	$-3 \leq x < 1 ✓$	1 mark for correct answer	(1)
3.6	$x \leq 21 ✓$	1 mark for correct answer	(1)
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TOTAL: 50