



# 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 : TEST**

**TIME : 2 HOURS**

**MARKS : 50**

**This assessment tool consists of 4 pages.**

**INSTRUCTIONS AND INFORMATION FOR THE TEACHER.**

## 1. MARKING KEY

A = Accuracy

M = Method

CA=Consistent Accuracy

**QUESTION 1** [15]

1.1	1.1.1	$a = 5\checkmark A$ $b = 2\checkmark A$	Each correct term	(2)
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	1.1.2	Subtracting 3 from the previous term to get the next term $\checkmark A \checkmark A$	Correct statement	(2)
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	1.1.3	Seventh term = $-4\checkmark A$	Correct answer	(1)
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	1.1.4	$T_n = -3n + c$ $14 = -3(1) + c \therefore c = 17$ $\therefore T_n = -3n + 17$ $\checkmark A \checkmark A$	Correct answer	(2)
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	1.1.5	$T_{100} = -3(100) + 17\checkmark CA$ $T_{100} = -300 + 17\checkmark A$ $\therefore 100th \text{ term is } -283\checkmark A$	Substitution Simplification Correct answer	(3)
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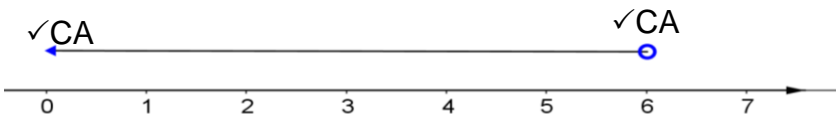
	1.1.6	$T_n = -3n + 17$ $-3n + 17 < -598\checkmark A$ $-3n < -598 - 17\checkmark A$ $-3n < -615$ $\therefore n > 205\checkmark A \checkmark A$ $\therefore n = 206\checkmark A$	Correct substitution Transposing 17  Correct sign of > Value of 205 Correct answer	(5)
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**QUESTION 2**

2.1		$(2x^2 + 5x - 12) - (x^2 - 5x + 3)$ $= 2x^2 + 5x - 12 - x^2 + 5x - 3$ $= 2x^2 - x^2 + 5x + 5x - 12 - 3$ $= x^2\checkmark A + 10x\checkmark A - 15\checkmark A$	Each correct term	(3)
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2.2		$a^2(a - 1) - 25(a - 1)$ $= (a^2 - 25)(a - 1)\checkmark A$ $(= a - 5)\checkmark A(a + 5)\checkmark A(a - 1)$	Correct factors Each Correct difference of squares	(3)
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2.3		$8m + 9 = 7m + 8$ $8m - 7m\checkmark = 8 - 9\checkmark A$ $m = -1\checkmark A$	Transposing of terms Correct answer	(3)
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2.4	$8 - p > 2$ $-p > 2 - 8 \checkmark \mathbf{A}$ $-p > -6$ $p < 6 \checkmark \mathbf{A}$ 	Transposing of terms Correct equality Correct direction of the line number and open point(excluded)	(4)
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QUESTION 3		
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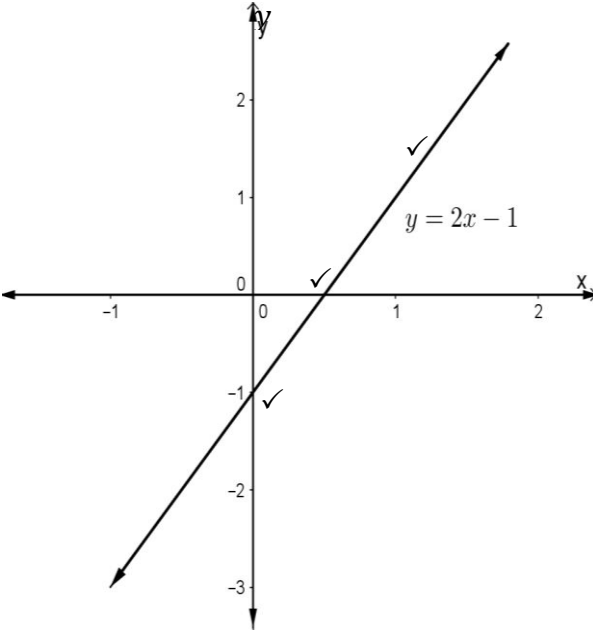
3.1.1	$BMI = \frac{mass}{(height)^2}$ $= \frac{95kg}{(1,75m)^2} \checkmark \mathbf{A}$ $= \frac{95kg}{3,0625m^2} \checkmark \mathbf{A}$ $= 31kg/m^2 \checkmark \mathbf{A}$	Correct substitution  Squaring the height  Correct answer	(3)
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3.1.2	She is obese/ very overweight $\checkmark \mathbf{A}$	Correct answer	(1)
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3.1.3	$BMI = \frac{mass}{(height)^2}$ $28 = \frac{76kg}{(height)^2} \checkmark \mathbf{A}$ $(height)^2 = \frac{76}{28} \checkmark \mathbf{A}$ $height = \sqrt{2,714285714}$ $= 1,6475$ $= 1,65m \checkmark \mathbf{A}$	Correct substitution  Correct manipulation  Correct answer	(3)
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3.1.4	Drink a lot of water $\checkmark \mathbf{A}$ Exercise $\checkmark \mathbf{A}$ Eat healthy Go for medical check up	Any TWO	(2)
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	3.2.1	For $y$ –intercept: let $x = 0$ $y = 2(0) - 1 = -1$ ✓ <b>A</b> For $x$ –intercept: let $y = 0$ $0 = 2x - 1$ $\therefore x = \frac{1}{2}$ ✓ <b>A</b>	Correct $y$ value  Correct $x$ intercept	(2)
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		Drawing and labelling the Cartesian plane  Plotting of $x$ -intercept Plotting of $y$ -intercept Draw the straight line	(4)
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**QUESTION 4**

	4.1.1	SIGN A: Octagon ✓ <b>A</b> SIGN B: Triangle ✓ <b>A</b>	Correct name Correct name	(2)
	4.1.2	$A = \frac{1}{2}(12)(18)$ ✓ <b>A</b> $A = 48 \text{ cm}^2$ ✓ <b>A</b>	Substitution  Correct answer	(2)
	4.1.3	4 ✓ <b>A</b>	Correct number	(1)

	<b>TOTAL:</b>	<b>50</b>
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