



education

Department:
Education
PROVINCE OF KWAZULU-NATAL

ZULULAND DISTRICT: GENERAL EDUCATION AND TRAINING (GET)

Helping Our Schools Transform Little People into Future Giants

GRADE 09

MATHEMATICS
MARCH MARKING GUIDELINE
2024

Marks : 50

This memorandum consists of 3 pages including the cover page.

IMPORTANT INFORMATION

- This is a marking guideline. In instances where learners have used different but mathematically sound strategies to solve the problems, they (learners) should be credited.
- Underline errors committed by learners and apply Consistent Accuracy (CA) marking

Question 1			[10]
1.1.	A ✓		(1)
1.2.	D ✓		(1)
1.3.	D ✓		(1)
1.4.	A ✓		(1)
1.5.	C ✓		(1)
1.6.	B ✓		(1)
1.7.	D ✓		(1)
1.8.	B ✓		(1)
1.9.	A ✓		(1)
1.10.	C ✓		(1)

Question 2				[10]
2.1.	2.1.1.	A factor ✓		(1)
	2.1.2.	A prime number ✓		(1)
	2.1.3.	A cube number ✓		(1)
2.2.	$300 = 2^2 \times 3 \times 5^2$ ✓ $475 = 5^2 \times 19$ ✓ $5^2 \times 2^2 \times 3 \times 19$ $5\,700$ ✓		$2^2 \times 3 \times 5^2$: 1 mark $5^2 \times 19$: 1 mark $5\,700$: 1 mark	(3)
2.3.	Bigger $speed = \frac{distance}{time}$ ✓ $speed = \frac{640}{10}$ $speed = 64\text{ km/h}$ ✓ Brown $speed = \frac{distance}{time}$ $speed = \frac{360\text{km}}{6\text{hours}}$ $speed = 60\text{ km/h}$ ✓ Brown is travelling at a lowest speed of 60 km/h or Brown is slower. ✓		Formula: 1 mark 64 km/h : 1 mark 60 km/h : 1 mark Answer 60 km/h: 1 mark	(4)

Question 3			[08]
3.1	$-4(-5) + 2(3 \times (-6)) + 0$ $= 20 - 36$ ✓ $= -16$ ✓	Simplification: 1 mark -16 : 1 mark	(2)
3.2.	$-\frac{42}{7} + 5(-2) - 3$ $= -6 - 10 - 3$ ✓ $= -19$ ✓	$-6 - 10 - 3$: 1 mark -19 : 1 mark	(2)
3.3.	$\sqrt{\frac{81}{9}} - \sqrt{4(\sqrt[3]{-125})}$ $= \frac{9}{3} - 2(-5)$ ✓✓ $= \frac{9}{3} + 10$ $= 3 + 10$ ✓ $= 13$ ✓	$\frac{9}{3}$: 1 mark $2(-5)$: 1 mark $3 + 10$: 1 mark 13 : 1 mark	(4)

Question 4			[12]
4.1.	$2^4 \times 2^4$ 2^{4+4} ✓ 2^8 ✓	Adding exponents: 1 mark 2^8 : 1 mark	(2)
4.2.	$\frac{\sqrt{169x^6} \times \left(\frac{y}{p^{99}q}\right)^0}{\frac{3\sqrt{x^{12}}}{13x^3 \times 1} \times \frac{x^4}{\frac{13}{x}}}$ $\frac{13}{x}$ or $13x^{-1}$ ✓	$13x^3 \times 1$: 1 mark x^4 : 1 mark $\frac{13}{x}$ or $13x^{-1}$: 1 mark	(3)
4.3.	$\frac{\left(\frac{2x^{-1}y}{3y^2}\right)^{-2}}{\frac{1}{\left(\frac{2x^{-1}y}{3y^2}\right)^2} \times \frac{1}{\frac{4x^{-2}y^2}{9y^4}}}$ $\frac{9y^2}{4x^{-2}}$ or $\frac{9x^2y^2}{4}$ ✓	$\frac{1}{\left(\frac{2x^{-1}y}{3y^2}\right)^2}$: 1 mark Positive exponent: 1 mark Simplification: 1 mark $\frac{9y^2}{4x^{-2}}$ or $\frac{9x^2y^2}{4}$: 1 mark	(4)
4.4.	$5,3 \times 10^{-4} + 1,4 \times 10^{-3}$ $= 0,53 \times 10^{-3} + 1,4 \times 10^{-3}$ ✓ $= 1,93 \times 10^{-3}$ ✓ $= 0,00193$ ✓	$0,53 \times 10^{-3}$: 1 mark Simplification: 1 mark $0,00193$: 1 mark	(3)

Question 5			[10]
5.1.	The constant different between each term is 3. ✓ $T_n = 3 \times n + c$ $c = -5 - 3$ $c = -8$ ✓ $\therefore T_n = 3 \times n - 8$ ✓	Constant difference: 1 mark Value for c: 1 mark $3 \times n - 8$: 1 mark	(3)
5.2.	$n = 60$ $T_n = 3 \times n - 8$ $T_{60} = 3 \times 60 - 8$ ✓ $T_{60} = 180 - 8$ ✓ $T_{60} = 172$ ✓	Substitution: 1 mark Simplification: 1 mark $T_{60} = 172$: 1 mark	(3)
5.3.	$T_n = 55$ $55 = 3n - 8$ ✓ $55 + 8 = 3n - 8 + 8$ ✓ $63 = 3n$ $n = 21$ ✓ $\therefore T_{21} = 55$ ✓	Equation: 1 mark Simplification: 1 mark $n = 21$: 1 mark $T_{21} = 55$: 1 mark	(4)