TEST MEMO
TERM 1
Gr 9

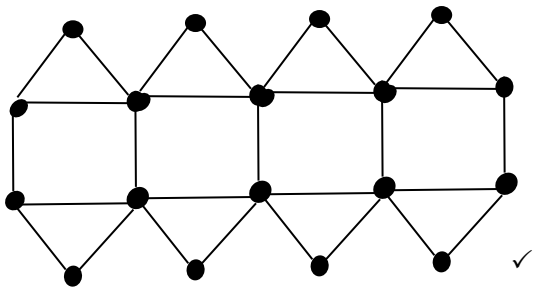
M	**Method**
CA	**Constant accuracy**
A	**Answer**

QUESTION 1

1.1	18 – 10 +4 – 6 = 22 - 16 = 6 ✓ **A**	answer: 1 mark	(1)
1.2	-24 - (-18) = -24 + 18 ✓ **M** = -6 ✓ **CA**	-24 + 18 : 1 mark answer: 1 mark	(2)
1.3	8 x (-3) ÷ (-6) = $\frac{-24}{-6}$ ✓ **M** = 4 ✓ **CA**	$\frac{-24}{-6}$: 1 mark answer: 1 mark	(2)
1.4	$-4^2 + (-4)^3$ = -16✓-64 ✓ **M** = -80 ✓ **CA**	-16: 1 mark -64: 1 mark answer: 1 mark	(3)
1.5	$\sqrt{169} - \sqrt[3]{-0,064}$ = 13✓ - (-0,4) ✓ **M** = 13 + 0,4 = 13,4 ✓ **CA**	13: 1 mark -0,4: 1 mark answer: 1 mark	(3)
1.6	$\sqrt{1\frac{9}{16}} \times 1\frac{2}{3} \div 9\frac{1}{3}$ ✓ **M** = $\sqrt{\frac{25}{16}} \times \frac{5}{3} \div \frac{28}{3}$ ✓ **M** = $\frac{5}{4} \times \frac{5}{3} \times \frac{3}{28}$ ✓ **M** = $\frac{25}{112}$ ✓ **CA**	$9\frac{1}{3}$: 1 mark $\sqrt{\frac{25}{16}}$: 1 mark Reciprocal: 1 mark answer: 1 mark	(4) **[15]**

QUESTION 2			
2.1 2.1.1	$-4(x^3)^0$ $= -4(1)$ ✓ **M** $= -4$ ✓ **A**	1: 1 mark answer: 1 mark	(2)
2.1.2	$(-4x^3)^0$ $= 1$ ✓ **A**	answer: 1 mark	(1)
2.1.3	$3^{-1}\ a^2\ b^{-5}$ $= \frac{a^2}{3b^5}$ ✓ **A**	answer: 1 mark	(1)
2.1.4	$(-2y^2)(-2y)^{-2}$ $= \frac{(-2y^2)}{(-2y)^2}$ ✓ **M** $= \frac{-2y^2}{4y^2}$ ✓ **M** $= -\frac{1}{2}$ ✓ **CA**	Positive exponents: 1 mark Simplify: 1 mark answer: 1 mark	(3)
2.1.5	$\frac{x^4y^3}{x^5y^3}$ $= \frac{1}{x}$ ✓✓ **A**	1: 1 mark x: 1 mark	(2)
2.2	$4^{-2} \times 6^2 \times 3^{-2}$ $= (2^2)^{-2} \times (3 \times 2)^2 \times 3^{-2}$ ✓ **M** $= 2^{-4} \times 3^2 \times 2^2 \times 3^{-2}$ $= 2^{-4+2} \times 3^{2-2}$ ✓ **M** $= 2^{-2} \times 3^0$ $= \frac{1}{4}$ ✓ **CA**	Prime factors: 1 mark Exponential law: 1 mark answer: 1 mark	(3)
2.3 2.3.1	$3^x = 81$ $3^x = 3^4$ ✓ **M** $\therefore x = 4$ ✓ **A**	3^4: 1 mark answer: 1 mark	(2)
2.3.2	$5^x = \frac{1}{25}$ $5^x = 5^{-2}$ ✓ **M** $\therefore x = -2$ ✓ **A**	5^{-2}: 1 mark answer: 1 mark	(2)

2.3.2	$2^{x+4} = 1$ $2^{x+4} = 2^0$ ✓**M** $\therefore x + 4 = 0$ $\therefore x = -4$ ✓**A**	2^0 : 1 mark answer: 1 mark	(2)
2.4	2,5 x 10^{-6} x 6 x 10^{10} + 5,7 x 10^8 = 15 x 10^4 + 5,7 x 10^8 ✓**M** = 150 000 + 570 000 000 ✓**M** = 570 150 000 = 5,7015 x 10^8 ✓**CA**	answer only: $\frac{3}{3}$ if answer rounded off: $\frac{2}{3}$	(3) **[21]**
QUESTION 3			
3.1	**Option A:** A = P(1 + i)^n ✓**M** = 2 500(1 + 0,08)^4 ✓**M** = R3 401,22 ✓**CA** **Option B:** A = P(1 + i*n*) ✓**M** = 2 500(1 + 0,075 x 4) ✓**M** = R3 250 ✓**CA** ∴ Option A is better ✓**CA**	formula: 1 mark substitution: 1 mark answer: 1 mark formula: 1 mark substitution: 1 mark answer: 1 /mark Option A: 1 mark	(7)
3.2	$\%\ \text{verhoging/increase} = \frac{\text{NP} - \text{OP}}{\text{OP}} \times 100$ $= \frac{12{,}30 - 11{,}21}{11{,}21} \times 100$ $= 9{,}72\%$	12.30 – 11,21: 1 mark Divide by 11,21: 1 mark X 100: 1 mark answer: 1 mark If answer not rounded off to 2 dec places: only 3/4	(4)
3.3	distance = speed x time ✓**M** = 0,9 x 10^3 x 24 ✓**M** = 21,6 x 10^3 = 2,16 x 10^4 km ✓**CA**	Formula: 1 mark 0,9 x 10^3 x 24: 1 mark answer: 1 mark	(3) **[14]**

QUESTION 4			
4.1.1	$-5x^2 - x$ ✓ ✓	$-5x^2$ (1) $-x$ (1)	(2)
4.1.2	$-2(3x + y)(5x - 4y)$ $= (-6x - 2y)$ ✓ $(5x - 4y)$ $= -30x^2 + 24xy - 10xy + 8y^2$ ✓ $= -30x^2 + 14xy + 8y^2$ ✓	multiply by – 2 (1) (CA) multiply brackets (1) (CA) answer (1)	(3)
4.1.3	$\frac{2x+1}{4} - \frac{x+2}{2} - \frac{1}{4}$ $= \frac{2x+1-2x-4-1}{4}$ ✓ ✓ $= \frac{-4}{4}$ ✓ $= -1$ ✓	denominator 4 (1) numerator correct (1) simplify numerator (1) (CA) answer (1)	(4)
4.2.1	$3x - 1 = 5$ $3x = 6$ ✓ $\therefore \quad x = 2$ ✓	$3x = 6$ (1) (CA) answer (1)	(2)
4.2.2	$-6(x - 3) = 2(x + 7) - 5(x - 2)$ $-6x + 18 = 2x + 14 - 5x + 10$ $-6x - 2x + 5x = +24 - 18$ ✓ $\therefore \quad -3x = 6$ ✓ $\therefore \quad x = -2$ ✓	multiplication brackets (1) simplify (1) (CA) answer (1)	(3) **[14]**
QUESTION 5			
5.1	 ✓	correct pattern (1)	(1)
5.2	a = 29 ✓ b = 71 ✓	value of a (1) value of b (1)	(2)

5.3	$T_n = 7n + 1$ ✓ ✓	7n (1) 1 (1)	(2)
5.4	$T_n = 7n + 1$ $50 = 7n + 1$ ✓ $n = 7$ ✓	substitution of 50 (1) (CA) answer (1)	(2)
5.5	$T_{25} = 7(25) + 1$ $= 176$ ✓	correct answer (1)	(1) **[8]**
QUESTION 6			
m = 0 ✓ n = 50 ✓ p = 2 ✓		correct answer (1) correct answer (1) correct answer (1)	(3) **[3}**
TOTAL: 75			