

Q#	SUGGESTED ANSWER	DESCRIPTORS	Total Marks
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QUESTION 1 [13 marks]

1.1.1	3,6,9,12✓	1 mark for all four 1 mark for both 1 mark for answer 1 mark for answer 1 mark for answer	5																						
1.1.2	3 and 10✓																								
1.1.3	3✓																								
1.1.4	3✓																								
1.1.5	17✓																								
1.2.1	<table><tr><td>2</td><td>72</td></tr><tr><td>2</td><td>36</td></tr><tr><td>2</td><td>18</td></tr><tr><td>3</td><td>9</td></tr><tr><td>3</td><td>3</td></tr><tr><td></td><td>1</td></tr></table> ✓ $= 2 \times 2 \times 2 \times 3 \times 3$ ✓ $= 2^3 \times 3^2$ ✓	2	72	2	36	2	18	3	9	3	3		1	1 mark for method 1 mark for expansion 1 mark for answer	3										
2	72																								
2	36																								
2	18																								
3	9																								
3	3																								
	1																								
1.2.2	<table><tr><td>2</td><td>24</td></tr><tr><td>2</td><td>12</td></tr><tr><td>2</td><td>6</td></tr><tr><td>3</td><td>3</td></tr><tr><td></td><td>1</td></tr></table> $= 2 \times 2 \times 2 \times 3$ ✓ LCM = 96✓ OR $M_{24} : 24; 48; 72; 96; 120; \dots$ ✓ $M_{32} : 32; 64; 96$ ✓ LCM = 96✓ OR Factor tree	2	24	2	12	2	6	3	3		1	<table><tr><td>2</td><td>32</td></tr><tr><td>2</td><td>16</td></tr><tr><td>2</td><td>8</td></tr><tr><td>2</td><td>4</td></tr><tr><td>2</td><td>2</td></tr><tr><td></td><td>1</td></tr></table> $= 2 \times 2 \times 2 \times 2 \times 2$ ✓ 1 mark for <u>each</u> prime factorization 1 mark for answer 1 mark for each set of multiples 1 mark for answer	2	32	2	16	2	8	2	4	2	2		1	3
2	24																								
2	12																								
2	6																								
3	3																								
	1																								
2	32																								
2	16																								
2	8																								
2	4																								
2	2																								
	1																								
1.2.3	3,45 X 10 ⁸ ✓✓	1 mark for decimal comma 1 mark for exponent	2																						

QUESTION 2 [10 marks]

2.1	$27^{\checkmark\checkmark}$	2 marks for answer	2
2.2	$\sqrt{16+9}$ $= \sqrt{25}^{\checkmark}$ $= 5^{\checkmark}$	1 mark adding 1 mark for answer	2
2.3	$3^4 + (17)^0 - \sqrt{49}$ $= 81^{\checkmark} + 1 - 7^{\checkmark}$ $= 75^{\checkmark}$	2 marks for step 2 1 mark for answer	3
2.4	$(-1)^3 + 10^2 + 4X(-5)$ $= -1 + 100 - 20^{\checkmark}$ $= \frac{9}{4} \times \frac{2}{3}^{\checkmark}$ $= 79^{\checkmark}$	2 marks for method 1 mark for answer	3

QUESTION 3 [12 marks]

3.1 a	$2\frac{1}{4} \times \frac{2}{3}$ $= \frac{9}{4} \times \frac{2}{3}^{\checkmark}$ $= \frac{3}{2}^{\checkmark}$	1 mark for method 1 mark for answer	2
3.1 b	$\frac{3}{4} + 4\frac{1}{6} \div 5$ $= \frac{3}{4} + \frac{25}{6} \times \frac{1}{5}$ $= \frac{3}{4} + \frac{5}{6}$ $= \frac{9+10}{12}$ $= \frac{19}{12}$	1 mark for reciprocal 1 for method 1mark for answer	3
3.2.1	$\frac{3\,999-2\,500}{2\,500} \times 100\%$ $= 59,96\% \text{ or } 60\%$	1 mark for method 1 mark for answer	2
3.2.2	$R3\,999 \times 10\%$ $= R399,90$	1 mark for method 1 mark for answer	2
3.3	$A = P(1 \times n_i)$ $A = R5\,000(1 \times 4 \times 0,06)$ $A = R6\,200$ Any other method accepted	1 mark for formula 1 mark for substitution 1 mark for answer	3

QUESTION 4 [10 marks]

4.1.1	$4✓$	1 mark for answer	1
4.1.2	$12✓$	2 marks for answer	2
4.1.3	$-3✓$	1 mark for answer	1
4.1.4	$-10(-2)^3 - 3(-2)^2 + 10(-2) + 12✓$ $= 100✓$	1 mark for substitution 1 mark for answer	2
4.2	$(3y - x)^2$ $= [3(3) - (-2)]^2✓$ $= [9 + 2]^2✓$ $= 121✓$	1 mark for substitution 1 mark for method 1 mark for answer	3
4.3	$x + 11 \text{ years old}✓$	1 mark for answer	1

QUESTION 5 [6 marks]

5.1	$6^{\text{th}} = 24 \text{ blocks}✓✓$	2 marks for answer	2
5.2	$T_n = 4n✓✓$	2 marks for answer	2
5.3	$276/4 = 69^{\text{th}} \text{ diagram}✓✓$	2 marks for answer	2

QUESTION 6 [18 marks]

6.1.1	$3a✓ - 5b✓$	1 mark per term	2
6.1.2	$\frac{2}{3}(9x - 12)$ $= 6x✓ - 8✓$	1 mark per term	2
6.1.3	$2a(a - 3) - (a - 5)$ $= 2a^2✓ - 7a✓✓ + 5✓$	1 mark per term as indicated	4
6.1.4	$-8p^{15}✓✓$	2 marks for the answer	2
6.1.5	$\frac{8m^3 + 6m^5 - 2m^2}{-2m^2}$ $= -4m✓ - 3m^3✓ + 1✓$	1 mark for each term	3
6.1.6	$\frac{36p^6}{-6p^2}$ $= -6p^4✓✓$	2 marks for the answer	2
6.1.7	$= a - 3b - 3✓✓✓$	1 mark for each term	3

QUESTION 7 [8 marks]

7.1	$2x - 5 = 11$ $2x = 11 + 5✓$ $x = 8✓$	1 mark for simplifying 1 mark for answer	2
7.2	$4(x - 2) - 3x = 2x - 5$ $4x - 8 - 3x = 2x - 5✓$ $4x - 3x - 2x = -5 + 8✓$ $-x = -3$ $x = 3✓$	1 mark for removing brackets 1 mark for simplifying 1 mark for answer	3
7.3	$\frac{x}{4} + 3 = 9✓$ $x + 12 = 36✓$ $x = 24✓$	1 mark for LCD 1 mark for simplifying 1 mark for answer	3

TOTAL: 75 marks