

SECTION A

Question 1

1 ✓ per correct answer

1.1	C
1.2	B
1.3	A
1.4	C
1.5	C
1.6	B
1.7	A
1.8	D
1.9	C
1.10	B

[10]

QUESTION 2

1 mark per row

Number		<i>Natural</i>	<i>Integer</i>	<i>Rational</i>	<i>Irrational</i>	<i>Real</i>
2.1	3	✓	✓	✓		✓
2.2	$\sqrt{25}$	✓	✓	✓		✓
2.3	$\frac{22}{7}$			✓		✓
2.4	$3, \dot{1} \dot{2}$			✓		✓
2.5	2,315...				✓	✓

[5]

QUESTION 3

3.1.1 18 or 24 ✓(accept either one)

(1)

1

3.1.2 49 ✓

(1)

3.1.3 13 ✓

(1)

3.1.4 8 or 24 ✓(accept either one)

(1)

3.1.5 13 ✓

(1)

3.1.6 24 ✓

(1)

3.2

2	360	✓✓ for ladder/factor tree, -1 per mistake
2	180	
2	90	
3	45	
3	15	
5	5	
	1	

$$360 = 2^3 \times 3^2 \times 5 \checkmark$$

(3)

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QUESTION 4

4.1 $2 - 4(-5) \checkmark = 22 \checkmark$

(2)

4.2 $(16 \times 2 \checkmark - 8 \checkmark) \div 3 = 8 \checkmark$

(3)

4.3 $\left(\frac{3}{2} + \frac{15}{4}\right) \checkmark \div \left(\frac{3}{8} - \frac{2}{8}\right) \checkmark$

$$= \left(\frac{6}{4} \checkmark + \frac{15}{4}\right) \times \left(\frac{8}{1}\right) \checkmark = \frac{21}{4} \checkmark \times \frac{8}{1} = 42 \checkmark$$

(6)

[11]

QUESTION 5

5.1 Four terms ✓ (1)

5.2 $\frac{1}{3}$ ✓ (1)

5.3 2 ✓ (1)

5.4 $\frac{y^5}{3} + 7y^2 - 6y + 2$ ✓✓ (-1 per error) (2)

5.5 $\frac{(-1)^5}{3} + 7(-1)^2 - 6(-1) + 2$ ✓
 $= -\frac{1}{3} + 7 + 6 + 2$ ✓ = $14\frac{2}{3}$ ✓ (3)

[8]

QUESTION 6

6.1 $3a$ ✓ (1)

6.2 a^3 ✓ (1)

6.3 $-6a$ ✓ (1)

6.4 $-3a^2 + 5a^2$ ✓ = $2a^2$ ✓ (2)

6.5 $-8x^3$ ✓✓ (2)

6.6 $-15a^4b^6$ ✓✓✓ (3)

6.7 $4a^6b^8$ ✓✓✓ (3)

6.8 $3x^2y - 5xy^2$ ✓ (2)

6.9 $-3x + 6 - 8x - 12$ ✓ = $-11x - 6$ ✓✓ (4)

6.10 $\frac{4x^2}{y^2}$ ✓✓✓ (3)

6.11 $\frac{5x^2}{10x^2}$ ✓ = $\frac{1}{2}$ ✓ (2)

6.12 $8a^4e^5$ ✓✓✓ (3)

QUESTION 7

7.1.1 $x + 3$ ✓

(1)

7.1.2 $p - 5$ ✓

(1)

7.1.3 mn ✓

(1)

7.1.4 $5x^2$ ✓

(1)

7.1.5 $4(x + y)$ ✓✓

(2)

7.2.1 $x = -14$ ✓

(1)

7.2.2 $x = -72$ ✓

(1)

7.2.3 12 ✓ = $3x$ ✓

$x = 4$ ✓

(3)

7.2.4 $4x - 8$ ✓ - $2x - 2$ ✓ = 4

$2x = 14$ ✓

$x = 7$ ✓

(4)

[15]