Section A: Algebra

1

(a) ✓ $11x - 2x^2$

(b) ✓ $21p^2q$

(c) ✓ $8xy - 2xy^2$

(d) ✓ $7h^4$

(e) ✓ $\frac{3}{y^2}$

2.

(a) ✓ $x^2 + 3x + x + 3$
✓ $= x^2 + 4x + 3$ CAO

(b) ✓ $x^2 + 7x - 5x - 35$
✓ $= x^2 + 2x - 35$ CAO

(c) ✓ $x^2 - 3x - 3x + 9$
✓ $x^2 - 6x + 9$ CAO

(d) ✓ $3x - x^2 - 15 + 5x$
✓ $-x^2 + 8x - 15$ CAO

(e) ✓ $2x - 10 - 3x + 21$
✓ $-x + 11$ CAO

3

(a) ✓ $5x(1 + 3y)$

(b) ✓ $4x^2y^2(y + 3x^2)$

(c) ✓ $(x + 5)(x - 2)$

(d) ✓ $(x - 7)(x + 4)$

(e) ✓ $(v + 11)(v - 11)$

4

(a) ✓ $x = 11$

(b) ✓ $t = 6.5$

(c) ✓ First step correct
(Multiply bracket or Divide by 2)
✓ $x = 4$

(d) ✓ First step correct (as above)
✓ $x = 3$

(e) ✓ $x = 2, 3$

(f) ✓ $x = -4, 5$

(g) ✓ First correct step (+3)
✓ A second correct step (x4)
[or equivalent steps]
✓ $y = 16$ CAO

(h) ✓ $x = 0.5,$
✓ $x = 4$

5

(a) ✓ A = 21
✓ B = 26

(b) ✓ 1 each gradient and constant
✓ $y = 4x - 3$

6

(a) ✓ -2

(b) ✓ d $y=0.5x^2-2$

(c) ✓ -6

(d) ✓ -2, 3

(e) ✓ $(x + 2)(x - 3)$ [1 mark each]

7

✓ y = 5x – 8 [1 each for m and c]

8

✓ P = 2(2x – 3) + 2(x + 2) = 40
✓ P = 6x – 2 = 40
✓ x = 7 CAO

9

✓ Area = 99 m^2

✓ Units

10

(a) ✓ 490000

(b) ✓ 0.00436

11

(a) ✓ 376.34

(b) ✓ 0.0930

12

(a) ✓ 32.46

(b) ✓ 3.42 (2dp)

(c) ✓ 15564.8

(d) ✓ 6

(e) ✓ 7

(f) ✓ 1

13

✓ 16 : 56 : 32 CAO
✓ Evidence of 1 representing 8

14

✓ 329.12 kg CAO
✓ Signs of calculating 12%

15

✓ $5\frac{19}{30}$

16

✓ $1\frac{61}{75}$

17

✓ $\frac{12}{25}$

✓ Understanding of 48 / 100

18

✓ 0.65

19

✓ 66

20

(a) ✓ $x = \sqrt{(15^2 - 7^2)}$

✓ x = 13.3

(b) ✓ y = 8 cos 27

✓ y = 7.1

21

✓ $A = \tan^{-1}(11/6)$
✓ $A = 61.4^o$

22

✓ $x = \sqrt{(11^2 + 6^2)}$
✓ x = 12.5 cm (1d.p.)

23

(a) ✓ $\tan^{-1}(4/7) = 030^o$ → 2^{nd} mark if failed to get any here

(b) ✓ 8.1 km

(c) ✓ 360 – 90 – 30

✓ 240^o

24

(a) ✓ 176 cm

(b) ✓ 0.5 cm

(c) ✓ 26000 cm

25

(a) ✓ 204 m^2 [1 mark for units]

(b) ✓ 32 cm^2 [1 mark for units]

26		**32**	
(a)	✓ 30000 cm^2 ✓ [2 marks: 1 for correct lengths]	**(a)**	✓ 153 / 300
(b)	✓ 20000 m^2 ✓ [2 marks: 1 for correct lengths]	**(b)**	✓ 45 / 300
27	✓ 336 m^2 ✓ units	**(c)**	✓ 116 / 300
28		**33**	
(a)	✓ $y = -2x + 4$	**(a)**	✓ 0.3
(b)	✓ $y = -x^2 + 3$	**(b)**	✓ 0.21
(c)	✓ Graph of $y = 2x - 3$	**(c)**	✓ 0.58
(d)	✓ Graph of $y = x^2 - 5$		✓ Signs of one success:1 fail
29		**34**	
(a)	✓ 64	**(a)**	✓ $\frac{1}{3}$
(b)	✓ 52	**(b)**	✓ $\frac{7}{18}$
(c)	✓ 70	**(c)**	✓ $\frac{5}{9}$
30	✓ Mean = 51.875 ✓ Median = 53.5 ✓ UQ = 65 ✓ LQ = 40		✓ Indication of adding probs
31		**35**	✓ Three statements that make sense of the data. ✓ Inclusion of a comment relating spread to consistency ✓ Inclusion of a comment about measure of central tendancy NOT Range nor 3 data statements
(a)	✓ 14		
(b)	✓ Mean = 2189 / 159 ✓ =13.8		
(c)	✓ 5000 x 26 / 159 ✓ = 818		