1. Here is a quadratic sequence.

$$4 , 7 , 12 , 19 , 28 ,$$

  (i)   Write down the Nth term.

$n^2 + 3$
....

(3 marks)

2. Coordinate $A = (-5 , 7)$ and coordinate $B = (-3 , 13)$.

   Write down the midpoint of AB

$(-4 , 10)$
....

(2 marks)

3. Simplify $3m + 7 + 5m^2 + 2 + 5m - 2m^2$

$8m + 3m^2 + 9$
....

(2 marks)

4. Simplify $3x^2 + 8x^2 - 4x^2$

$7x^2$
....

(1 mark)

5. $a = 5$ $b = 3$ $c = -2$

   Work out the value of $ab + 2c$

11
....

(2 marks)

6. Simplify $6h^{-3} \times 7h^{-5}$

$42h^{-8}$
....

(2 marks)

7. Simplify $\dfrac{36e^{-15}}{9e^{-3}}$

$4e^{-12}$
....

(2 marks)

8. Simplify $(2t^7)^3$

$8t^{21}$
....

(2 marks)

9. Simplify $\dfrac{6a^4 \times 2a^6}{3a^2}$

$4a^8$
....

(2 marks)

10. Expand $4n(5n - 4)$

$20n^2 - 16n$
....
(1 mark)

11. Factorise $y^2 - 7u$

$y(y - 7)$
....
(2 marks)

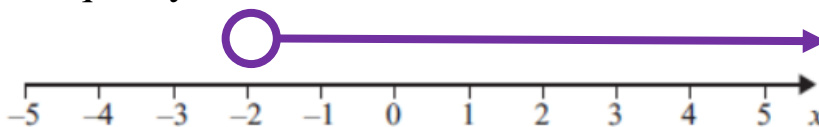12. Expand and simplify. $(2x + 3)(x + 2)$

$2x^2 + 9x + 6$
....
(2 marks)

13. Factorise $x^2 + 2x - 15$

$(x + 5)(x - 3)$
....
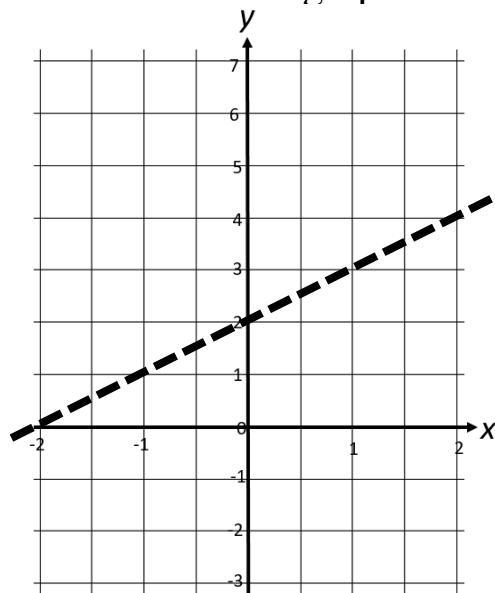(2 marks)

14. Solve $7x - 5 = 3x + 11$

$x =$ 4
(2 marks)

15. Show the inequality $3x > -6$ on the number line below.

(2 marks)

16. Below is a linear graph.

(i) Write down the gradient.

1
... ...

(ii) Write down the y intercept

2
... ...

(iii) Write down the equation of the line.

$y = x + 2$
... ...

(4 marks)

Score =