1. Here is a quadratic sequence.

$$5 , 14 , 27 , 44 , 65 ,$$

   (i)   Write down the Nth term.   …………………

(3 marks)

2. Coordinate $A = (7 , 3)$ and coordinate $B = (x , y)$.
The midpoint of $AB = (11 , 7)$
Write down the coordinate of B.   …………………

(2 marks)

3. Simplify $-2a^2 + 5 - 10a + 7 - a^2 + 6a$

…………………

(2 marks)

4. Simplify $8m^3 - 5m^3 + 7m^3$

…………………

(1 mark)

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

   Work out the value of $ab + 2c$

…………………

(2 marks)

6. Simplify $7p^6q^{-2} \times 7p^3q^5$

…………………

(2 marks)

7. Simplify $\dfrac{36d^{-4}e^{10}}{9d^6e^4}$

…………………

(2 marks)

8. Simplify $(5t^{-6})^3$

…………………

(2 marks)

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

…………………

(2 marks)

10. Expand $2ab(6a - 4b)$

………………….

(2 marks)

11. Factorise $9y^2 + 24y$

…………………

(2 marks)

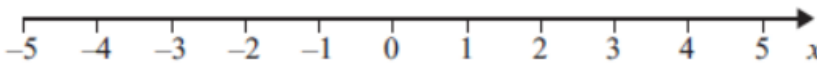12. Expand and simplify. $(2x + 1)(2x + 3)$

…………………

(2 marks)

13. Factorise $2x^2 - 7x - 4$

…………………
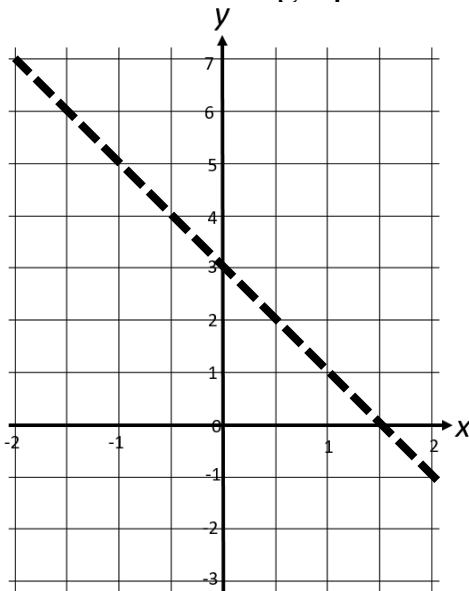
(2 marks)

14. Solve $4x + 1 = 6x + 7$

$x =$……………

(2 marks)

15. Show the inequality $1 < x + 3 < 4$ on the number line below.

(2 marks)

16. Below is a linear graph.

(i)   Write down the gradient.

... ...

(ii) Write down the y intercept

... ...

(iii) Write down the equation of the line.

... ...

(4 marks)

Score =