

1. Here is a quadratic sequence.

$$-1, 2, 7, 14, 23, \dots$$

(1) Find the n th term.
(3 marks)

2. Coordinates of point A are $(-1, 3)$ and coordinate of point B are $(14, -2)$.
Write down the length of the line segment AB.
(2 marks)

3. Simplify $5y^2 + 3y^2 - 5 - 3y$
(2 marks)

4. Simplify $4y^3 + y^3 + 2y^3$
(1 mark)

5. $a = 5$ $b = 3$ $c = -2$
Work out the value of $ab + 2c$
(2 marks)

6. Simplify $5a^2b \times 4ab^3$
(2 marks)

7. Simplify $\frac{15e^4f^6}{3e^2f}$
(2 marks)

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

9. Simplify $\frac{6a^4 \times 2a^6}{3a^2}$
(2 marks)

10. Expand $7t(3 + 9t)$

.....
(1 mark)

11. $m^2 + 21m$

.....
(2 marks)

12. Expand $(2x - 1)(x + 4)$

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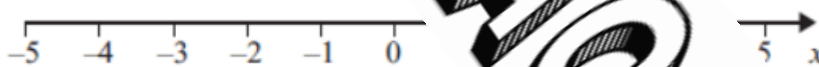
13. Factorise $x^2 - 5x + 6$

account
.....
(2 marks)

14. Solve $8x - 9 = 15$

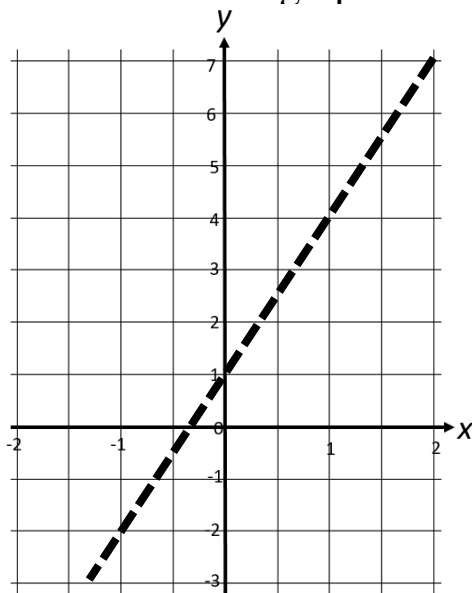
$x = \dots\dots\dots$
(2 marks)

15. Show the inequality $2x + 1 < 11$ on the number line below.



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(2 marks)

16. Below is a linear graph.



(i) Write down the gradient.

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(ii) Write down the y-intercept.

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(iii) Write down the equation of the line.

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(2 marks)

Score =