

1. (a) Two sets of algebraic expressions are shown below. Draw a line from each expression on the left to the equivalent expression on the right. One line has already been drawn.

| | |
|-----------------------|----------|
| $2x + x$ | $3x$ |
| $3x - x$ | $3x + 1$ |
| $3x \times x$ | x^3 |
| $3(x + 1)$ | $3x^2$ |
| $x \times x \times x$ | $2x$ |
| | 3 |
| | $3x + 3$ |

(4)

- (b) Simplify $3p + 5q + p - 2q$

(2)

(Total 6 marks)

2. Simplify

(a) $c + 4c + 2c$

(1)

(b) $d \times d \times d$

(1)

(c) $3p + 5q - 2p + q$

(2)

(Total 4 marks)

3. (a) Simplify $6p + 3q - 2q + 3p$

(2)

(b) Multiply out $5(r - 2)$

(1)

(Total 3 marks)

4. (a) Expand $3(y - 4)$

(1)

(b) Simplify the expression $2c + 6d + 4c - 8c$

(2)

(c) Factorise $x^2 + 5x$

(2)

(Total 5 marks)

5. (a) Simplify $2x + 3y + 5x - 2y - 4x$ (2)

(b) Factorise $4c + 12$ (1)

(c) Factorise $x^2 + 5x$ (2)

(Total 5 marks)

6. Factorise

(a) $4x - 8$ (1)

(b) $y^2 + 2y$ (2)

(Total 3 marks)

7. (a) If $x = 4$ and $y = -3$, find the value of $3x - 2y$ (2)

(b) Simplify $3p + 5q - 2p + q$ (2)

(c) Multiply out and simplify $2(3x + 1) - 3(x - 2)$ (2)

(Total 6 marks)

8. (a) Simplify

$4x - 5x + 7x$ (1)

(b) Simplify

(i) $x^5 \times x^{-2}$ (1)

(ii) $y^5 \div y^{-2}$ (1)

(Total 3 marks)

9. Simplify

(a) $w^6 \times w^2$ (1)

(b) $x^3 \div x^5$ (1)

(c) $(y^3)^2$ (1)

(Total 3 marks)