

Expanding and Factorising Quadratics

Question Paper

Level	OCR
Subject	Maths
Exam Board	GCSE (9-1)
Topic	Algebra
Sub Topic	Expanding and Factorising Quadratics
Grade Level	Grade 5
Booklet	Question Paper

Time Allowed: 40 minutes

Score: /33

Percentage: /100

1 (a) Solve this equation.

$$5x - 4 = 3x + 7$$

(a) [3]

(b) Factorise fully.

$$7y^2 - 14y$$

(b) [2]

2 (a) Factorise.

$$x^2 - 9$$

(a) _____ [1]

(b) Factorise.

$$x^2 - 4x + 3$$

(b) _____ [2]

(c) Use your answers to parts (a) and (b) to simplify this expression.

$$\frac{x^2 - 4x + 3}{x^2 - 9}$$

(c) _____ [1]

3 (a) Multiply out and simplify.

$$(x - 3)(x + 5)$$

(a) _____ [2]

(b) Factorise.

$$4x^2 - y^2$$

(b) _____ [2]

(c) Solve by factorisation.

$$x^2 - 7x + 12 = 0$$

(c) _____ [3]

4 Simplify.

$$\frac{2x^2 - 9x + 4}{x^2 - 2x - 8}$$

_____ [4]

5 (a) Write this expression in completed square form, $(x + a)^2 - b$.

$$x^2 + 6x + 1$$

(a) _____ [2]

(b) Use your answer to part (a) to solve this equation.

$$x^2 + 6x + 1 = 0$$

Give your answers correct to 2 decimal places.
Show your working clearly.

(b) _____ [4]

6 (a) Solve this quadratic equation by factorisation.

$$x^2 - 7x + 10 = 0$$

(a) _____ [3]

(b) Solve algebraically these simultaneous equations.

$$\begin{aligned}4x + 3y &= 6 \\ y &= 13 - 5x\end{aligned}$$

(b) $x =$ _____

$y =$ _____ [4]