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.

$$4x + 3y = 6$$
$$y = 13 - 5x$$

(b) $x =$ _____

$y =$ _____ **[4]**