**P1 January 2003**

(*b*) Solve the simultaneous equations

$$x = 2y - 2,$$

$$x^2 = y^2 + 7.$$

**(6)**

**P1 November 2003**

Solve the simultaneous equations

$$x - 3y + 1 = 0,$$

$$x^2 - 3xy + y^2 = 11.$$

**(7)**

**P1 January 2005**

Solve the simultaneous equations

$$x + y = 3,$$

$$x^2 + y = 15.$$

**(6)**

**C1 January 2005**

Solve the simultaneous equations

$$x + y = 2$$

$$x^2 + 2y = 12.$$

**(6)**

**C1 June 2005**

Solve the simultaneous equations

$$x - 2y = 1,$$

$$x^2 + y^2 = 29.$$

**(6)**

**C1 January 2007**

Solve the simultaneous equations

$$y = x - 2,$$

$$y^2 + x^2 = 10.$$

**(7)**

**C1 June 2007**

(*a*) By eliminating $y$ from the equations

$$y = x - 4,$$

$$2x^2 - xy = 8,$$

show that

$$x^2 + 4x - 8 = 0 .$$

**(2)**

(*b*) Hence, or otherwise, solve the simultaneous equations

$$y = x - 4,$$

$$2x^2 - xy = 8,$$

giving your answers in the form $a \pm b\sqrt{3}$, where $a$ and $b$ are integers.

**(5)**

**C1 January 2010**

Solve the simultaneous equations

$$y - 3x + 2 = 0$$

$$y^2 - x - 6x^2 = 0$$

**(7)**

**C1 June 2011**

Solve the simultaneous equations

$$x + y = 2$$

$$4y^2 - x^2 = 11$$

**(7)**

**ANSWERS**

**C1 January 2005**

$x = 4, x = -2; \quad y = 4, y = -2$

**C1 June 2005**

$y = 2, x = 5; y = -\frac{14}{5}, x = -\frac{23}{5}$

**C1 January 2007**

$x = -1, y = -3$ or $x = 3, y = 1$

**C1 June 2007**

(*b*) $x = -2 + 2\sqrt{3}$, $y = -6 + 2\sqrt{3}$

**C1 January 2010**

$y = -2$, $y = 10$, $x = \frac{1}{3}$, $x = 4$

**C1 June 2011**

$x = \frac{1}{3}$, $y = \frac{5}{3}$; $x = 5$, $y = -3$