

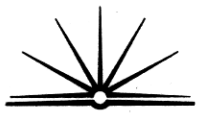
$$\text{Q1a} \quad \frac{5.8^2 - 3.1^3}{3 \times 3.1 \times 5.8} = \frac{3.849}{53.940} = 0.071$$

$$\text{Q1b} \quad x^3 + 2 \quad \therefore \frac{d}{dx} = 3x^2$$

$$\text{Q1c} \quad x^2 = 5x$$
$$\frac{x^2}{x} = 5$$
$$x = 5$$

$$\text{Q1d} \quad \int \frac{3}{x} dx = \int \frac{3}{x} dx$$
$$= 3 \ln x + C$$

$$\text{Q1e} \quad 3x - \frac{2x-5}{2} = 6$$
$$6x - 2x - 5 = 12$$
$$4x = 17$$
$$\therefore x = 4\frac{1}{4}$$



Q1f

$$x - 2y = 8 \quad \dots \dots \dots \textcircled{1}$$

$$2x + y = 1 \quad \dots \dots \dots \textcircled{2}$$

rearranging $\textcircled{2}$:

$$y = 1 - 2x \quad \dots \dots \dots \textcircled{3}$$

substituting:

$$8 = x - 2(1 - 2x)$$

$$8 = x - 2 + 4x$$

$$10 = 5x$$

$$\therefore x = 2$$

$$y = 1 - 2x$$

$$y = 1 - 2 \times 2$$

$$\therefore y = \del{1} - 3$$

$$\therefore x = 2 \quad \& \quad y = -3$$