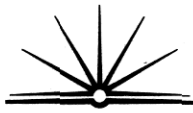


$$\begin{aligned} \text{a)} \quad & \frac{5.8^2 - 3.1^3}{3 \times 3.1 \times 5.8} \\ & = \frac{33.64 - 9.61}{53.94} \\ & = 0.445494 \dots \\ & = 0.445 \quad (3 \text{ sig. fig.}) \end{aligned}$$

$$\begin{aligned} \text{b)} \quad & y = x^3 + 2 \\ & \frac{dy}{dx} = 3x^2 \end{aligned}$$

$$\begin{aligned} \text{c)} \quad & x^2 = 5x \\ & x^2 - 5x = 0 \\ & x(x - 5) = 0 \\ & \therefore x = 0 \text{ or } x = 5. \end{aligned}$$

$$\begin{aligned} \text{d)} \quad & \int \frac{3}{x} dx = \int 3x^{-1} \\ & = 3 \int \frac{1}{x} \\ & = 3 \ln x + C. \end{aligned}$$



$$e) \quad 3x - \frac{2x-5}{2} = 6$$

$$6x - 2x - 5 = 6$$

~~$$4x - 5 = 6$$~~

$$4x = 11$$

$$x = \frac{11}{4}$$

$$f) \quad x - 2y = 8 \quad \dots \quad (1)$$

$$2x + y = 1 \quad \dots \quad (2) \quad \times 2$$

$$4x + 2y = 2 \quad \dots \quad (3)$$

$$(1) + (3) \quad 5x = 10$$

$$\therefore x = 2$$

$$\text{sub. } 2 - 2y = 8$$

$$-2y = 6$$

$$\therefore y = -3.$$