

$$(a) \frac{3.849}{53.94}$$

$$= 0.071357\dots$$

$$= 0.0713 \text{ (3 sig figs)}$$

$$(b) f(x) = x^3 + 2$$

$$f'(x) = 3x^2$$

$$(c) x^2 = 5x$$

$$x^2 - 5x = 0$$

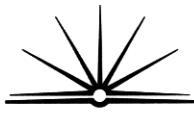
$$x(x-5) = 0$$

$$\therefore x = 0 \text{ or } x = 5$$

$$(d) \int \frac{3}{x} dx$$

$$= \int 3x^{-1} dx$$

$$= 3 \log_e x + C$$



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

$$\frac{6x-2x+5}{2} = 6$$

~~$$4x-5=12$$
$$4x=17$$
$$x=\frac{17}{4}$$~~

↓

$$4x+5=12$$

$$4x=7$$

$$x=\frac{7}{4}$$

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

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

From (1):  $x=8+2y$

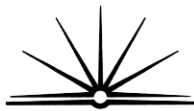
Sub to (2):  $2(8+2y)+y=1$

$$16+4y+y=1$$

$$5y=-15$$

$$y=-3$$

PTO



Sub into ①

$$x - 2(-3) = 8$$

$$x + 6 = 8$$

$$x = 2$$

$$\therefore x = 2, y = -3$$