

Q1 a) Eval 3 sig fig.

$$\frac{24.03}{53.94} = 0.445$$

$$\frac{5.8^2 - 3.1^3}{3 \times 3.1 \times 5.8} = 0.071$$

b) diff.

$$x^3 + 2$$

$$\frac{dy}{dx} = 3x^2$$

c) solve $x^2 = 5x$

$$\frac{x^2}{x} = 5$$

$$5 = x$$

d) Integ.

$$\frac{3}{x}$$

$$\int \frac{3}{x} =$$

$$\frac{3x}{x^2} + C$$

$$\frac{3^2}{2x} + C$$

$$\frac{f(x)}{f'(x)}$$

$$\frac{f'(x)}{f(x)}$$

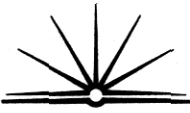
e) Solve $3x - \frac{2x-5}{2} = 6$ x by 2

$$6x - (2x - 5) = 12$$

$$4x - 5 = 12$$

$$4x = 17$$

$$x = 4\frac{1}{4}$$



f) Solve simult. EQs.

$$x - 2y = 8 \quad \text{--- --- --- (1)}$$

$$2x + y = 1 \quad \text{--- --- --- (2)}$$

$$\textcircled{1} \times 2 \quad 2x - 4y = 16 \quad \text{--- --- --- (3)}$$

$$\textcircled{2} - \textcircled{3} \quad -3y = -15$$

$$y = \frac{-15}{-3}$$

$$y = 5$$

TEST
SUB in EQ (1)

$$x - 2(5) = 8$$

$$x - 10 = 8$$

$$x = 18$$

Test
SUB in EQ (1)

$$18 - 2 \times 5 = 8$$

$$18 - 10 = 8$$

$$\therefore 18 = 18$$