BOARD OF STUDIES
NEW SOUTH WALES

Question 1.

a) $\dfrac{5.8^2 - 3.1^3}{3 \times 3.1 \times 5.8} = \dfrac{33.64 - 29.791}{53.94} = 0.071$

b) $x^3 + 2 \Rightarrow y' = 3x^2$

c) $x^2 = 5x \Rightarrow x = \sqrt{5x}$

d) $\dfrac{3}{x}$

$\int 3x^{-1}$

$= \dfrac{-3x^{-2}}{-2}$

$= \dfrac{-3}{x^2} + C$

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

$\Rightarrow 6x - 2x - 5 = 12$

$\Rightarrow 4x = 17$

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

f) $x - 2y = 8$

$2x + y = 1$

$\Rightarrow y = 2x - 1$

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

$x - 4x + 2 = 8$

$x - 4x = 6$

$-3x = 6$

$(x = 9, y = 17)$