

$$= -4x(1-4x^2)^{-1/2}$$

$$= \frac{-4x}{\sqrt{1-4x^2}}$$

$$h) \frac{5}{2+\sqrt{1+3x}}$$

$$= \frac{5}{2+(1+3x)^{1/2}}$$

$$= 5[2+(1+3x)^{1/2}]^{-1}$$

$$= 5[2^{-1} + (1+3x)^{-1/2}]$$

$$f'(x) = \frac{1}{5} \cdot 5 [(1+3x)^{-1/2} \cdot 3]$$

$$= \frac{5}{2} [3(1+3x)^{-1/2}]$$

$$= \frac{15}{2} (1+3x)^{-1/2}$$

$$4. \quad x^2 - xy + y^2 = 3 \text{ at } (1, 2)$$

first derivative of equation

$$f'(x) = 2x - y = 2$$

$$2x - y = 2$$

$$y = 2x - 2$$

$$f'(x) = 2x - y$$

at point (1, 2)

$$f'(1) = 2 - y$$

$$y - y_1 = m(x - x_1)$$

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