

$$1.) \text{ B) } y = \frac{1-10x}{(2x-1)^2}$$

$$y = \frac{[1-10x] \times (2x-1) - (1-10x) \times [2x+1]}{(2x-1)^2}$$

$$\cancel{[(1-10) \times (2x-1)] - (1-10) \times (2x+1)}$$

$$\frac{[0-10] \times (2x-1) - (1-10x) \times [2]}{(2x-1)^2}$$

$$\frac{-10 \times (2x-1) - 2(1-10x)}{(2x-1)^2}$$

$$\frac{-10(2x-1) - 2(1-10x)}{(2x-1)^2} \therefore$$

$$\cancel{\frac{0 - 2(1-10x)}{(2x-1)^2}}$$

$$1.) \text{ B) } y = \frac{1}{x} + \cos 2x \quad \text{find } \frac{d^5 y}{dx^5} = -32 \sin(2x) - \frac{120}{x^6}$$

$$y = \frac{1}{x} + \cos 2x$$

$$y' = \frac{dy}{dx} [\cos(2x)] + \frac{dy}{dx} [\frac{1}{x}]$$

$$y' = (-\sin(2x)) \cdot \frac{dy}{dx}(2x) - \frac{[x]}{x^2}$$

$$y' = -2 \sin 2x - \frac{1}{x^2}$$

$$\frac{d^2 y}{dx^2} = [-2 \sin(2x) - \frac{1}{x^2}]$$

$$= -2 \cdot \frac{d}{dx} [\sin 2x] - \frac{d}{dx} [\frac{1}{x^2}]$$

$$= -2 \cos(2x) \cdot x^2(2x) - (-2)x^{-3}$$

$$= -2 \cos 2x \cdot 2 \cdot 1 + \frac{2}{x^3}$$

$$= \frac{2}{x^3} - 4 \cos 2x$$

$$\frac{d^3 y}{dx^3} = [\frac{2}{x^3} - 4 \cos(2x)]$$

$$2 \cdot \frac{1}{x^4} - 4 \cdot \cos(2x)$$

$$2 \cdot (-3) \frac{1}{x^5} - 4(-\sin(2x)) \cdot [2x]$$

$$4 \times 2 \times \frac{1}{x^5} (x) \times \sin(2x) - \frac{6}{x^4}$$

$$8 \times 1 \sin(2x) - \frac{6}{x^4}$$

$$8 \sin 2x - \frac{6}{x^4}$$

$$\frac{d^4 y}{dx^4} = 8 \sin 2x - \frac{6}{x^4}$$

$$= 8 \cdot [\sin 2x] - 6 \cdot (\frac{1}{x^4})$$

$$= 8 \cos 2x \cdot \frac{1}{x^4} (2x) - 6(-4)x^{-5}$$

$$= 8 \cos(2x) \cdot 2 \cdot \frac{1}{x^3} + \frac{24}{x^5}$$

$$= 16 \cos(2x) + \frac{24}{x^5}$$

$$\frac{d^5 y}{dx^5} = 16 \cos(2x) + \frac{24}{x^5}$$

$$= 16(\cos(2x)) + 24 \cdot \frac{1}{x^5}$$

$$= 16(-\sin(2x)) \cdot [2x] + 24x(-5)x^{-6}$$

$$= -32 \sin(2x) - \frac{120}{x^5} \therefore$$