

$$\frac{dy}{dx} = \frac{-10}{(2x-1)^2} - \frac{4(1-10x)}{(2x-1)^3}$$

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

$$\frac{dy}{dx} = -x^{-2} + -2 \sin 2x$$

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

$$\frac{d^3y}{dx^3} = -6x^{-4} + 8 \sin 2x$$

$$\frac{d^4y}{dx^4} = 24x^{-5} + 16 \cos 2x$$

$$\frac{d^5y}{dx^5} = -120x^{-6} - 32 \sin 2x$$

$$\frac{d}{dx} (\cos x - \cot x)$$

$$= -\sin x - (-\csc^2 x)$$

$$= -\sin x + \csc^2 x$$