

Q 2

(i)  $y = 8x^3 - 2x^2 + x + 10$

$$\frac{dy}{dx} = 24x^2 - 4x + 1$$

(ii)  $y = (5x-3)(6x-1)$

~~$$\frac{dy}{dx} =$$~~

$$y = 30x^2 - 5x - 18x + 3$$

$$\frac{dy}{dx} = 60x - 23x + 3$$

(iii)  $y = \frac{3}{\sqrt{x}} + \ln x$

$$y = 3x^{-\frac{1}{2}} + \ln x$$

$$\frac{dy}{dx} = -\frac{3}{2}x^{-\frac{3}{2}} + \frac{1}{x}$$

(iv)  $y = 5 \sin \frac{\pi}{2} - 6 \cos 3x - 6 \sin \frac{\pi}{3}$

~~$$\frac{dy}{dx} = 5 \cos \frac{\pi}{2} - 6 \sin 3x - 6 \cos \frac{\pi}{3}$$~~

$$\frac{dy}{dx} = 5 \cos \frac{\pi}{2} + 18 \sin 3x + \frac{1}{3} \sec^2 \frac{\pi}{3}$$