

$$\text{iii) } y = 3x^{\frac{3}{2}} + x^{\frac{3}{2}} - 6x$$

$$9x^{\frac{3}{2}} + 2x - 6x$$

$$\text{Ans: } 9x^{\frac{3}{2}} - 4x$$

$$3x^{\frac{3}{2}} = 9x^{\frac{3}{2}}$$

$$\frac{3}{x^2} = 2x$$

$$-6x = -6x$$

$$\text{iv) } y = \sec^3 4x$$

$$(\sec^3)(4x) + (\sec^3 \tan^3)(4x)$$

$$(\sec^3 4x) + (\sec^3 \tan^3 4x)$$

$$u = \sec^3 \quad u' = \sec^3 \tan^3$$

$$v = 4x \quad v' = 4x$$

$$u'v' + u'v$$

$$\text{Ans} = \sec^6 \tan^3 8x$$

$$\text{v) } y = (x + \sin 2x)$$

$$u = x \quad u' = 1$$

$$v = \sin 2x \quad v' = \cos 2x$$

$$\text{Ans) } \underline{y' = 1 + \cos 2x}$$