

1- Find $\frac{dy}{dx}$:

[6]

1- $y = \sin^{-1}(x^3)$

2- $y = \ln(x^2 + 1)$

3- $y = 2x^5 + x^{-4}$

Q2) 1- use the chain rule to find $\frac{dy}{dx}$ if (3)

$$y = \cos t \quad , \quad t = x^3$$

2- Use implicit differentiation to find

(3)

$$\frac{dy}{dx} \text{ if } y^2 + 3x^2 = 9$$

Q3) :- find :

1- find $\frac{dy}{dx}$ if $y = \frac{1}{\tan^{-1} x}$ (3)

$$2- y = \sin^{-1}(e^x) \quad (2)$$

$$3- y = e^x - 7 \sinh x \quad (3)$$