Pinaípales, 04 de dezembro de 2023

1) $y = (x^2 - 3x + 6)^4$

$$4(x^2 - 3x + 6)^3 \cdot \frac{d}{dx}(x^2 - 3x + 6)$$

$$3(2x - 3)$$

2) $y = \left(\dfrac{3x+2}{2x+1}\right)^5 \Rightarrow 5\left(\dfrac{3x+2}{2x+1}\right)^4 \times \dfrac{d}{dx}\left(\dfrac{3x+2}{2x+1}\right)$

$$\frac{5(3x+2)^4}{(2x+1)^6} \qquad \triangleleft \qquad 4\left(\frac{-1}{(2x+1)^2}\right)$$

3) $y = (x^3 + 4x)^7 \Rightarrow 7(x^3 + 4x)^6 \dfrac{d}{dx}(x^5 + 4x)$

$$7(x^3 + 4x)^6 \Rightarrow (3x^2 + 4)$$

4) $y = \sqrt[4]{1 + 2x + 8x^3} \Rightarrow 4(1 + 2v + x)^{\frac{3}{4}} \dfrac{d}{dx}(1 + 2x + x^3)$

$$4(1 + 2x' + x^3)^{\frac{3}{4}} \qquad (3x^2 + 2)$$

$$\frac{3x^2 + 2}{4(1 + 2x + x^2)^{\frac{3}{4}}}$$

1) $\dfrac{d}{dx}$ $5 \sin(x^2+1) \Rightarrow 5 \cdot \cos(x^2+1) \cdot 2x$

$\qquad 15 \cdot x \cdot \cos(x^2+1)$

2) $\dfrac{d}{dx} \tan(\sqrt{x}) \Rightarrow \sec^2(\sqrt{x}) \dfrac{d}{dx}(\sqrt{x})$

$\dfrac{d}{dx}(\sqrt{x}) = \dfrac{1}{2\sqrt{x}} \Rightarrow \sec^2(\sqrt{x}) \dfrac{1}{2\sqrt{x}} \Rightarrow \dfrac{\sec^2(\sqrt{x})}{2\sqrt{x}}$

3) $\dfrac{d}{dx} \tan(\sqrt{3x}) \Rightarrow \dfrac{d}{dx}(\tan(\sqrt{3}\sqrt{x}))$

$\sec^2(\sqrt{3}\sqrt{x}) \dfrac{d}{dx}(\sqrt{3}\sqrt{x}) \Rightarrow \sec^2(\sqrt{3}\sqrt{x}) \dfrac{\sqrt{3}}{2\sqrt{x}} \Rightarrow \dfrac{\sqrt{3}\sec^2(\sqrt{3}\sqrt{x})}{2\sqrt{x}}$

4) $\dfrac{d}{dx} \sqrt{\tan(3x)} \Rightarrow \dfrac{1}{2\sqrt{\tan(3x)}}, \sec^2(3x) \cdot 3$

$\dfrac{3\sec^2(3x)}{2\sqrt{\tan(3x)}}$