BÀI TẬP GIÁO KHOA

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Câu 1

$y' = (\frac{1}{4}x^4)' - (\frac{2}{3}x^3)' + (5x)' - (\sqrt{2})'$

$y' = x^3 - 2x^2 + 5$

Câu 2

$y' = \cos x + \sin x$

$y^2 + (y')^2 = (\sin x - \cos x)^2 + (\cos x + \sin x)^2$

$y^2 + (y')^2 = (\sin^2 x - 2\sin x\cos x + \cos^2 x) + (\cos^2 x + 2\sin x\cos x + \sin^2 x)$

$y^2 + (y')^2 = 2(\sin^2 x + \cos^2 x) = 2$ (đpcm)

Câu 3

$y' = 4(2x^2 - 3x + 1)^3 \cdot (2x^2 - 3x + 1)'$

$y' = 4(2x^2 - 3x + 1)^3 \cdot (4x - 3)$

$y' = (16x - 12)(2x^2 - 3x + 1)^3$

Câu 4

$y' = -(\sqrt{x^2 + 1})' \cdot \sin(\sqrt{x^2 + 1})$

$y' = -\frac{x}{\sqrt{x^2 + 1}} \cdot \sin(\sqrt{x^2 + 1})$

Câu 5

$f'(x) = \frac{1}{\cos^2 x} - \frac{1}{\sin^2 x}$

$f'(\frac{\pi}{4}) = \frac{1}{\cos^2(\frac{\pi}{4})} - \frac{1}{\sin^2(\frac{\pi}{4})}$

$f'(\frac{\pi}{4}) = \frac{1}{1/2} - \frac{1}{1/2} = 2 - 2 = 0$

Câu 6

$y' = \frac{2(x+4) - 1(2x-3)}{(x+4)^2}$

$y' = \dfrac{2x+8-2x+3}{(x+4)^2} = \dfrac{11}{(x+4)^2}$

Câu 7

$y' = 3x^2 - 6x$

$y' = 0 \Leftrightarrow 3x(x-2) = 0$

$x = 0$ hoặc $x = 2$

Câu 8

$y_0 = y(2) = \dfrac{2+2}{2-1} = 4$

$y' = \dfrac{-3}{(x-1)^2} \Rightarrow k = y'(2) = \dfrac{-3}{(2-1)^2} = -3$

PTTT: $y - 4 = -3(x-2) \Leftrightarrow y = -3x + 10$

Câu 9

$y' = 3x^2 - 2$

$k = y'(1) = 3(1)^2 - 2 = 1$

PTTT: $y - (-1) = 1(x-1) \Leftrightarrow y = x - 2$

Câu 10

$y_0 = \sin(\pi) + 1 = 1$

$y' = 2\cos(2x)$

$k = y'(\dfrac{\pi}{2}) = 2\cos(\pi) = -2$

PTTT: $y - 1 = -2(x - \dfrac{\pi}{2}) \Leftrightarrow y = -2x + \pi + 1$


See You Again !