

Exam

1=

i: $y = 5x^4 + 5x^2 + 3x - 19$ $5(4x^3) + 5(2x) + 3 - 19$ $\frac{dy}{dx} = 20x^3 + 10x + 3 - 19$

ii: $y = (2x+5)(x-1)$ $y = 2x^2 + 8x - 5$ $\frac{dy}{dx} = 4x + 8$

iii: $y = \frac{1}{x^6} \cdot \cos 5x$ $\frac{dy}{dx} = \left(\frac{1}{x^6} \cdot \cos(5x)\right)$ $\frac{dy}{dx} = -\frac{6}{x^7} + 5 \sin 5x$

iiii: $y = e^{2x} \sin 3x$ $\frac{dy}{dx} = e^{2x} \times 2 \sin(3x) + e^{2x} \times \cos(3x) \times 3$
 $\frac{dy}{dx} = 2e^{2x} \times \sin 3x + 3e^{2x} \times \cos 3x$

V=

V: $y = \frac{\tan 7x}{\sin x} \rightarrow V$ $\frac{(\cos x)(\tan 7x) - (\tan 7x)(\cos x)}{\cos^2 x}$

Vi: $y = \sqrt{6x^2 - 3x + 5}$ $y = (6x^2 - 3x + 5)^{1/2}$ $\frac{dy}{dx} = \frac{1}{2} (6x^2 - 3x + 5)^{-1/2} (12x - 3)$

2=

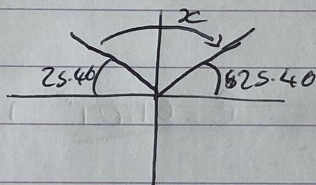
i: $\sin x = 0.43$

$x = \sin^{-1}(0.43)$

$x = 25.46^\circ$

$x = 180 - 25.46$

$x = 154.54^\circ$

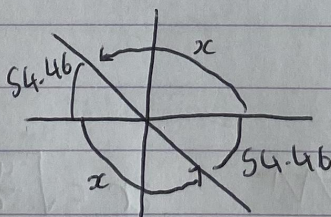


ii: $\tan x = -7$

$\tan x = \frac{7}{5}$

$x = \tan^{-1}\left(\frac{7}{5}\right)$

$x = 54.46^\circ$



$x = 180 - 54.46$

$x = 125.54^\circ$

$x = 360 - 54.46$

$x = 305.54^\circ$