

Sofed Dawage 2103529 10/01/22

Analytical methods
Tchut 10000

Q6

i) $y = 9x^3 + 7x^2 - x + 4$
 $\frac{dy}{dx} = 27x^2 + 14x - 1$

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ii) $y = (2x+3)(3x-5)$
 ~~$y = 6x^2 - 1 - 0$~~
 $\frac{dy}{dx} = 12x - 1$

iii) $y = 2 \ln(x) + 5$
 $\frac{dy}{dx} = 2 \times \frac{1}{x} - 5 \times \frac{1}{x^2}$
 $\frac{dy}{dx} = \frac{2x - 5}{x^2}$

iv) ~~$y = 27x^2 + 3x - 2$~~

v) $y = x^5 \times \sin 2x$
 $\frac{dy}{dx} = 5x^4 \times \sin(2x) + x^5 \times \cos(2x) \times 2$
 $\frac{dy}{dx} = 5x^4 \times \sin 2x + 2x^5 \times \cos 2x$