

Tugas 3, Kalkulus 1

1. Hitung dy/dx jika

(a) $y = (x^4 + 2x)(x^3 + 2x^2 + 1)$,

(b) $y = \frac{4}{2x^3 - 3x}$,

(c) $y = \frac{2x^2 - 1}{3x + 5}$,

(d) $y = \frac{x^2 - 2x + 5}{x^2 + 2x - 3}$.

2. Cari y' jika

(a) $y = \sin^2 x + \cos^2 x$,

(b) $y = x^2 \sin x$,

(c) $y = \frac{\cos x}{x}$,

(d) $y = \frac{x^2 + 1}{x \sin x}$.

3. Cari y' jika $y = \left(\frac{\sin x}{\cos 2x}\right)^3$.

4. Cari y' jika $y = \sin^4(x^2 + 3x)$.

5. Cari y' jika diketahui $x^3 - 3x^2y + 19xy = 0$.

6. Carilah titik-titik kritis pada $f(x) = \sin x - \cos x$ jika diberikan interval $[0, \pi]$.