

$$\begin{aligned}
& Find \frac{d}{dx} (ctg(-3 * x^3 + 10 * x^2 + 9 * x + 8))(x^2 - x - 4)) \\
& Find \frac{d}{dx} (sin(-4 * x^2 - 8 * x + 6))^{-2*x-6} \\
& Find \frac{d}{dx} (ctg(-2*x^3-8*x^2-9*x-7))(-10*x^3+8*x^2+5*x+7)(-6*x^3+5*x-10)) \\
& Find \frac{d}{dx} (sin(2 * x^3 - 6 * x^2 + 10 * x + 8))^{3*x-10} \\
& Find \frac{d}{dx} (sin(3 * x^2 - 10 * x - 3))^{-7*x^2-1} \\
& Find \int \frac{(10)}{sin^2(-10 * x - 10)} dx \\
& Find \int cos(-x^2 - 5 * x + 10) * (-2 * x - 5) dx \\
& Find \int \frac{6 * x - 7}{cos^2(3 * x^2 + 6 * x - 7)} dx \\
& Find \int (6 * x^3 + 7 * x^2 - 4 * x + 8)(6 * x^2 + 7 * x - 1) dx \\
& Find \int (5 * x + 3)(-10 * x + 9) dx \\
& Find : \lim_{x \rightarrow \infty} (3 * x^2 + 4 * x - 8)^{\frac{1}{2}} - (x^2 + 8 * x + 7)^{\frac{1}{2}} \\
& Find x, when : \lim_{n \rightarrow \infty} \frac{-x^2 - 6 * x + 11}{-x^2 - 6 * x + 10} \frac{(x^2 - 5x)^{n^3}}{(x^2 - 2x)^{n^3}} = e^1 \\
& Find : \lim_{x \rightarrow \infty} (6 * x + 4)^{\frac{1}{2}} - (9 * x)^{\frac{1}{2}} \\
& Find : \lim_{x \rightarrow -1} \frac{x + 1}{x + 1} \\
& Find x, when : \lim_{n \rightarrow \infty} \frac{-6 * x^2 - x + 2}{-6 * x^2 - x - 5} \frac{(x^2 + x - 20)^{n^3}}{(x^3 + 8x^2 + 11x - 20)^{n^3}} = e^7
\end{aligned}$$