

json -> latex convert test

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Questions

1. Find the derivative of $f(x) = x^3 - 4x + 2$. [5]

2. Evaluate the integral $\int (2x^2 + 3x - 1)dx$. [5]

3. Given $f(x) = e^{2x}$, find the equation of the tangent line to the curve at $x = 1$. [5]

4. Determine the value of $\lim_{h \rightarrow 0} \frac{(3+h)^2 - 9}{h}$. [5]

5. Find the derivative of $g(x) = \ln(x^2 + 1)$. [5]

6. Evaluate $\int \sin(3x)dx$. [5]

7. Find the area between the curve $y = x^2$ and the x-axis from $x = 0$ to $x = 1$. [5]

8. Solve the differential equation $y' = 2x$, given that $y(0) = 5$. [5]
