

json -> latex convert test

kora

Questions

1. Given the function $f(x) = x^3 - 4x + 1$, find its derivative $f'(x)$. [5]

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

3. Find the derivative of $g(x) = \sin(3x) + e^{4x}$. [5]

4. Evaluate $\int_{-1}^2 (6x - x^2) dx$. [5]

5. Find the complex number $z = a + bi$ such that $|z| = 5$ and $\arg(z) = \frac{\pi}{4}$. [5]

6. If $z = 3 - 4i$, find the conjugate and modulus $|z|$ of z . [5]

7. $\int x^2 e^x dx$. [5]

8. If $f(x) = x^3 - 6x^2 + 11x - 6$, find $f''(x)$. [5]

9. $\int_0^{\pi/4} \sin(x)^2 \cos(x) dx$. [5]

10. If $z = 2 + i$ and $w = -3 + 4i$, find the sum $z + w$. [5]
