

Non-Calculator

1. Solve for x: $\frac{x^2 - x - 20}{x + 2} \geq 0$

2. Solve for x: $16^{x+2} = 64^{x-7}$

3. Solve for x: $\ln(x + 1) = 2 - \ln(x - 2)$

4. Given: $f(x) = 4x^3 + 7$. Find $f^{-1}(x)$.

5. Find the equation of a line that contains the point (5, -3) and that is perpendicular to the line $4x - 5y = 9$

6. Find the domain of the function in interval form:

$$f(x) = \sqrt{x + 5} + \frac{2}{x}$$

7. Divide: $(2x^3 - x^2 + 3x - 1) \div (x^2)$

8. Solve: $-3x^2 e^{-x} = 5x e^{-x}$

9. Determine $\sec \theta$ given that the point (6, -9) is on the terminal side of θ .

10. Find the exact value of: $\csc \frac{11\pi}{6}$

11. Find the exact value of: $\cot \frac{5\pi}{3}$

12. Find the amplitude and the period of $f(x) = 3 \cos 5x$.

13. Completely Simplify: $\frac{\tan^2 \theta}{\sec \theta - 1}$

14. Condense completely: $\frac{1}{3} [\log(x + 2) + 6 \log(x - 1)] - 5 \log x$

15. Find a polynomial function with real coefficients and has zeros: -5 and $3i$.

16. Given: $f(x) = 3x^2 - 2x + 1$. Find $\frac{f(x+h) - f(x)}{h}$, where $h \neq 0$.