

1. Solve for x:  $8^{5x+2} = 32^{x-7}$

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

3. Determine  $\csc \theta$  given that the point  $(3, -5)$  is on the terminal side of  $\theta$ .

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

$$f(x) = \sqrt{2x - 3} + \frac{7}{3x + 1}$$

5. Condense completely:

$$\frac{1}{4} [\log(2x - 1) - 4 \log(x - 1)] + 5 \log(3x + 2)$$

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

7. Given:  $f(x) = -2x^2 + 12x$ . Find the zeros and find the maximum or minimum value of  $f(x)$ .

8. Given:  $f(x) = \frac{2x^2 + 5x - 12}{x^2 - 6x + 8}$  Find the Domain.

9. Find the x-intercept(s) for #8.

10. Find the y-intercept(s) for #8.

11. Find the Horizontal Asymptotes for #8.

12. Find the Vertical Asymptotes for #8.

13. Find the Slant Asymptotes for #8.

14. Find the Hole(s) for #8.

15. Draw the Graph for #8.