

Test 5

Spring 2002 MAT 191

Name _____

Simplify all answers and show your work!

1. Solve the inequality: $x^2 + 3x > 10$

2. Let $f(x) = x^2 + 2x - 4$. Find $f(-3)$.

3. Find the domain of $f(x) = \frac{x+5}{x-6}$

4. Graph $f(x) = 2(x-1)^2 + 3$

5. Solve for x : $27^x = \frac{1}{9}$

6. Solve for x : $4^{2x-1} = 2^{-x}$

7. Solve for x : $\log_{\frac{1}{5}} x = -2$

8. Solve for x : $\log_{16} 2 = x$

9. Use the properties of logarithms to write the expression as a sum or difference of logarithms. Assume all variables represent positive numbers: $\log_9\left(\frac{x^4}{y^3z^5}\right)$

10. Solve for x : $\log x + \log(x - 3) = 1$

11. Use properties of logarithms to write the expression as a single logarithm. Assume all variables represent positive real numbers and $b \neq 1$:
 $2\log_b x - 3\log_b y$

12. Solve for x : $\log(x + 2) = \log(5x + 1)$