

Solve each equation. Check for extraneous solutions. YOU MUST SHOW YOUR WORK.

1. $\log_5(2x + 15) = \log_5 3x$

2. $\log_9(5 - 3x) = \log_9(4x - 9)$

3. $\log_4(4x + 1) = \log_4(2x + 5)$

4. $\log_b(x^2 - 12) = \log_b x$

5. $\log_2 4x^2 = \log_2 100$