

Name: _____

Directions: Closed book, closed notes, no calculators. Show work to get credit. Each problem is 5 points, for a total of 20 points.By submitting this quiz you affirm that you agree with this statement: *On my honor, I have neither given nor received unauthorized aid on this assignment, and I pledge that I am in compliance with the VCU Honor System.*

1. Find all solutions of this equation: $2 \cos(x) = \sqrt{3}$

2. Find the inverse this function: $f(x) = 3 + \ln(x - 1)$

3. Solve this equation: $2^{x-1} = 5^x$

(It's OK to have logarithms in your answer.)

4. Simplify: $\ln(9) - 2 \ln(3x) + \ln(x^2)$