

Name: \_\_\_\_\_

January 29, 2021

**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:  $2 \cos(x) = \sqrt{2}$

2. Suppose  $f(x) = 3x + x^3$ . Find  $f^{-1}(14)$ .

3. Find the inverse this function:  $f(x) = 3 + 2^x$

4. Write as a single logarithm:  $\ln(x + 1) - 3 \ln(2x) + \ln(x^3)$