

Name \_\_\_\_\_

- No calculators allowed.
  - Show sufficient work to justify each answer.
  - You have 15 minutes for this quiz.
1. (3 points) Determine a formula for an exponential function given that its graph goes through the points  $(-5, 80)$ ,  $(0, 20)$  and  $(5, 5)$ .

2. (3 points) Solve for  $x$  in the equation below.

$$x = e^{1+\ln(1-x)}$$

3. (3 points) Given that  $g(x) = \ln(4 + \sqrt[3]{x})$ , find a formula for  $g^{-1}(x)$ .

4. (1 point) Suppose that  $f$  is a one-to-one function which takes on the following values.

$$f(-3) = 8, f(-2) = 3, f(-1) = 1/3, f(0) = -1/3, f(1) = -3, f(2) = -4, f(3) = -11$$

What is the value of  $f^{-1}(3)$  ?