

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

This quiz covers: 1.5 and 1.6.

**Directions:** Complete all questions and **show all applicable work.** Partial credit will be given. All questions are equally weighted.

1.) Compute the inverse of:  $f(x) = 3 + 2^{4-x}$ .

2.) Given  $f(x)$  in the prior problem, (A) what is the domain and range of  $f(x)$ ? (B) What is the domain and range of  $f^{-1}(x)$ ?

3.) Simplify the following. Clearly show each identity used.

$$\log_2(x^2) + \log_2(4x) - \log_2\left(\frac{x}{4}\right)$$