Worksheet 2: Chapter 1 (cont.)

1. Simplify the expressions.

$$\frac{3^{10/3}}{3^{4/3}} \qquad (\sqrt{3})^{1/2} \cdot (\sqrt{12})^{1/2} \qquad \left(\frac{\sqrt{6}}{3}\right)^4$$

2. Express the following in terms of $\ln(5)$ and $\ln(7)$.

$$(\ln(175) + \ln(1/5))/(\ln(49)$$

3. Simplify the expressions.

$$\ln(e^{-x^2-y^4}) \qquad \ln(e^{2\ln x})$$

4. Solve for y.

$$\ln(1-2y) = t$$

5. Find the exact value. Do not approximate.

$$\sin^{-1}\left(\frac{\sqrt{3}}{2}\right)$$

6. Find the domain of the function

$$g(x) = \ln|9 - x^2|.$$

7. Determine how much time it would take for your money to triple at an interest rate of 5% compounded annually.