Name: _____          Date: _____

# **Math 1050 PRACTICE Quiz (Ch. 6)**

Questions 1-3 are all or nothing. On questions 1-3, work is not necessary.

1.  (3 points) Jerico wants to triple his initial investment of \$1000. His account offers 3.5% annual interest, **compounded monthly**. Set up an equation that enables Jerico to calculate how many years it will take for his investment to triple. **Do not solve.**

2.  (3 points) If $log_b\sqrt{x} = 2$, evaluate $log_b x$.

3.  (3 points) $f$ is a one-to-one function defined by: $\left\{\left(5,\frac{1}{9}\right), (-2,9), (9,-1), (-9,4), \left(\frac{1}{9},3\right)\right\}$. Find $f^{-1}(9)$.

4.  (7 points) Solve $2\ln(x) = \ln(14 - 5x)$. **No points will be awarded if the solution is found by trial and error.**

5. (7 points) Let . $f(x) = 3x - 1$ and $g(x) = \frac{2}{2x+1}$.

   (a) Find $f \circ g$ and simplify completely.

   (b) What is the domain of $f \circ g$?

6. (7 points) A certain type of bacteria, given a favorite growth medium, doubles in population every 4 hours. ($N(t) = N_0 e^{kt}$). Given that there were 125 bacteria to start with, how many bacteria will there be in 72 hours?