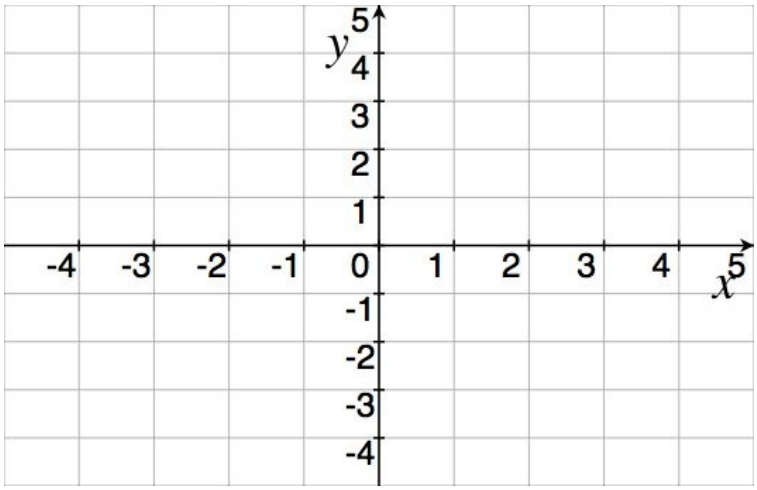
Quiz 4

Show *all* your work. No credit is given without reasonable supporting work. There are *two* sides to this quiz.

1. Let $g(x) = \log_3(x)$

   (a) [1] (WebHW17 #18)
   Find $g(9)$.

   (b) [1] (LogFunctionWks #2)
   Graph $g(x)$.



2. [3] (A.1 #142) Let A and B be two circles where the radius of B is four times the radius of A. How many times larger is the area of circle B than that of A? Justify your answer.

3. [2] (WebHW16 #13) Write the expression as a single logarithm:

$$\frac{1}{2}\ln(x) - \ln(y) + 3\ln(z)$$

4. [3] (ExpFunctionWks #3) Given that $f(x)$ is an exponential function of the form $y = b^x$ that has been vertically shifted and is graphed below.
Find the equation.