Quiz 22 **Name**_____

The doubling time of an investment or a loan is the number of years it takes for the value to double. Doubling times are often estimated by using the rule of 72;

$\left(Doubling\,Time\right) \approx \frac{72}{r \times 100}$ where r is the rate.

1. Suppose you invest money at 6% interest compounded annually. Using the above formula, how long before it doubles?

2. Using the method of logarithms, solve exactly.

3. Suppose the rate is 6% compounded *continuously*. How long before your investment doubles?

4. Using a calculator, find $\frac{\log 2}{\log(1.08)}$ and $\frac{\ln 2}{\ln(1.08)}$

5. Solve $2 = e^{rt}$ for t.