

NAME _____

ALGEBRA II LOGARITHM REVIEW

Evaluate:

1. $\log 6$

2. $\ln 6$

3. $\log_3 6$

4. $\log_5 6$

5. If $\log_b Q = 4$ then what is $\log_b Q^8$?

6. If $\log_b X = 3$, $\log_b Y = 4$, and $\log_b W = 5$. What is $\log_b \frac{X^2 W^3}{Y}$?

Convert the exponential equation to a logarithmic equation:

7. $8 = e^y$

8. $x = p^4$

Convert the logarithmic equation to an exponential equation:

9. $x = \log_7 y$

10. $\ln 3 = x$

11. The half-life of Astatine-217 is 2 seconds. You have 10 mg of Astatine-217.

a) Write an equation that models the decay of Astatine-217.

b) How much will you have left in 1 minute?

c) How long until there is only 1 mg left?

12. The population of a city increases by 5% every year. In 2010, there is 15,000 people. How many people will there be in the town in 2015?

13. You invest 400 dollars in a savings account with an annual interest rate of 1% compounded monthly.

a) Write an equation representing the situation.

b) How much money will you have in 10 years?

c) Write an equation representing the situation if the interest was compounded continuously.

d) How much money will you have in 10 years using part C? How much more is that?