

## Chapter 5 Quiz Review

1. Rewrite in exponential form:

a)  $\log_u 33 = v$

b)  $\log_m 240 = 7$

2. Rewrite in logarithmic form:

a)  $3^z = q$

b)  $3^5 = 243$

3. Write a function that represents the value after  $x$  years of a car that was purchased new for \$30,000 and decreases 9% each year.

4. Given the parent function  $y = 4^x$ , write the function resulting after a shift of 2 to the left and 7 down.

5. Find the total amount of money in an account after 22 years if the principal is \$2500 and the annual interest rate is 3.5%:

a) if interest is compounded monthly

b) if interest is compounded continuously

6. Indicate whether each function below is growth or decay:

a)  $y = 3(0.3)^x$

b)  $y = -5(4.3)^x$

7. Evaluate:

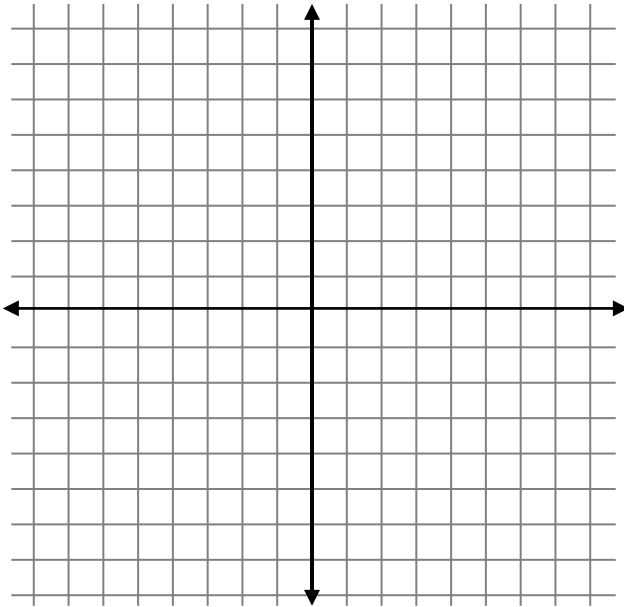
a)  $\log_4 2$

b)  $\log_5 \left( \frac{1}{125} \right)$

c)  $\log_8 64$

8. Write an exponential function to model the following situation. A town with initial population of 2300 increases at a rate of 12.5%. What will the population be in 7 years?

9. Sketch  $y = \log_2(x - 2) + 1$



10. What function is the inverse of  $y = \log_5 x$ ?