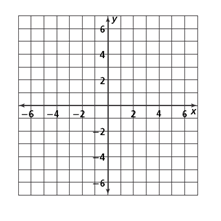
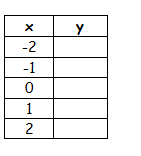
Algebra II Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

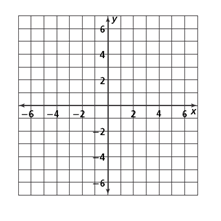
Quiz Review 8.1 – 8.3

**In problems 1 and 2, evaluate each function to the nearest hundredth for**

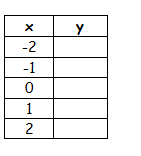
**x = -2, -1, 0, 1, and 2. Graph each function.**

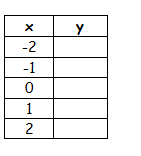
**1.** y = 2





**2.** y = (2)x





**3.** The deer population decreases at a rate of 1.5% per year. There are 1,573 deer this year. Write a function that models the deer population. How many deer will there be in 10 yr?

Function:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

# of Deer\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**4.** A tree 3 ft tall grows 8% each year. Write a function that models the height of the tree. How tall will the tree be at the end of 14 yr? Round your answer to the nearest hundredth.

Function:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Height of Tree\_\_\_\_\_\_\_\_\_\_\_\_\_

**In problems 5 - 6, write an exponential function y = abx for a graph that includes the given points.**

**5.** **6.**



(1,2.5)

**In 7 and 8, Find the amount in a continuously compounded account for the given conditions:**

**7.** Principal: $5000  **8.** Principal: $20,000

Annual interest: 6.9% Annual Interest: 3.75%

Time: 30 yr Time: 2 yr

**9.** HG-197 is used in kidney scans. It has a half-life of 64.128 h. Write the exponential decay function for a 12-mg sample. Find the amount remaining after 72 h.

Function:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Amt Remaining\_\_\_\_\_\_\_\_\_\_\_\_\_

**10.** I-123 is used in thyroid scans. It has a half-life of 13.2 h. Write the exponential decay function for a 45-mg sample. Find the amount remaining after 5 h.

Function:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Amt Remaining\_\_\_\_\_\_\_\_\_\_\_\_\_

**11.**  The function f(x) = $32,000(.83)x represents the value of Jason’s car x years from now. What is the annual rate of depreciation?

(Hint: What is r?)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**12.** The function f(x) = 250million(1.008)x represents the value of country’s population x years form now? What is the annual rate of increase?

(Hint: What is r?)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**In problems 19 – 21, write each equation in exponential form.**

**19.**  log4256 = 4 **20.**  log5125= 3 **21.** log17289 = 2

**In problems 22 – 24, write each equation in logarithmic form.**

**22.** 92 = 81 **23.**  54 = 625 **24.** 6-3 = 

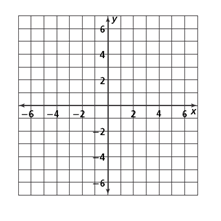
**In problems 20 – 25, evaluate each logarithm. First re-write as an exponential function. (Hint: set log = x)**

**25.** log216 **26.** log28

**27.** log2 **28.**  log11121

**29.** log 100,000 **30.** log32

**In 31 and 32, graph the following. (Must show tables and work!!)**

**31.** y = log2x

**32.** y = log3(x-2) +1

