

Mr. Shore

Algebra 2 X

Unit 7 Day 2 – Practice Worksheet

EXPONENTIAL GROWTH AND DECAY PRACTICE

1. A certain car depreciates 15% each year.
 - (a) Write a function that models the depreciation of a car valued at \$20,000.

 - (b) Suppose that the car was worth \$20,000 in 2005. How much would it be worth this year?

2. The value of a \$3,000 computer decreases about 30% each year.
 - (a) Write a function for the computer's value. Does the function represent growth or decay?

 - (b) Use the function to predict the value of the computer in 4 years.

3. About 84 million homes used the internet in 2000. The usage grew by about 34% each year until 2005. Write a function to model internet usage in the United States. Use your model to predict the number of homes that used internet in 2005.

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4. Do the following represent growth or decay? How do you know?

(a) $y = 200(4)^x$

(b) $y = 3.05(.87)^x$

(c) $y = \frac{4}{3}\left(\frac{1}{5}\right)^x$

(d) $y = \frac{1}{2}(3)^x$

5. Graph the following.

(a) $g(x) = -(2)^x$

(b) $y = -2\left(\frac{1}{2}\right)^x$

