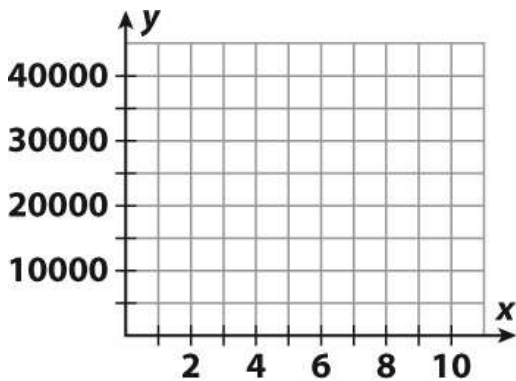


Modeling Exponential Growth and Decay

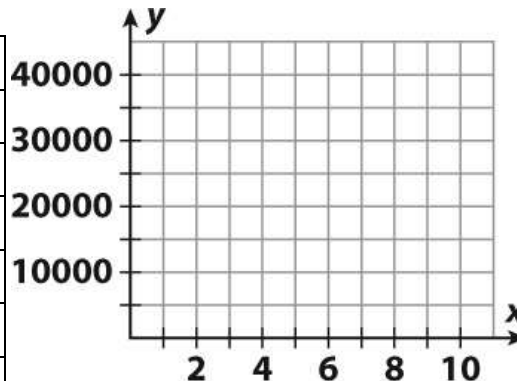
USE A CALCULATOR ON THIS HOMEWORK

Write an exponential growth or decay function to model each situation. Fill in the table, then graph each function.

1. The population is 20,000 now and expected to grow at an annual rate of 5%. 2. A boat that cost \$45,000 is depreciating at a rate of 20% per year.



x	y
0	
2	
4	
6	
8	
10	



x	y
0	
2	
4	
6	
8	
10	

3. The population of a city in 2005 was 36,000. By 2010, the city's population had grown to 57,600 people.
- a. Assuming that the population of the city has grown **linearly** since 2005 and continues to grow at the same rate, what will the population be in 2015?
- b. Assuming that the population of the city has grown **exponentially** since 2005 and continues to grow at the same rate, what will the population be in 2015?