

Skill: Exponential Growth and Decay

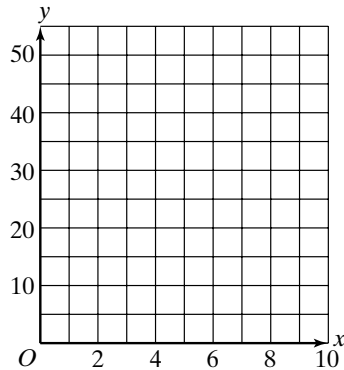
Investigation 4

Growing, Growing, Growing

1. Complete the table for integer values of x from 0 to 4. Then graph the function.

$$y = 50(0.2)^x$$

x	y	(x, y)
0		
1		
2		
3		
4		



Write an exponential function to model each situation. Find each amount after the specified time.

- Suppose the acreage of forest is decreasing by 2% per year because of development. If there are currently 4,500,000 acres of forest, determine the amount of forest land after each of the following.
 - 3 years
 - 5 years
 - 10 years
 - 20 years

- A \$10,500 investment has a 15% loss each year. Determine the value of the investment after each of the following.
 - 1 year
 - 2 years
 - 4 years
 - 10 years

- A city of 2,950,000 people has a 2.5% annual decrease in population. Determine the city's population after each of the following.
 - 1 year
 - 5 years
 - 15 years
 - 25 years

- A \$25,000 purchase decreases 12% in value per year. Determine the value of the purchase after each of the following.
 - 1 year
 - 3 years
 - 5 years
 - 7 years