

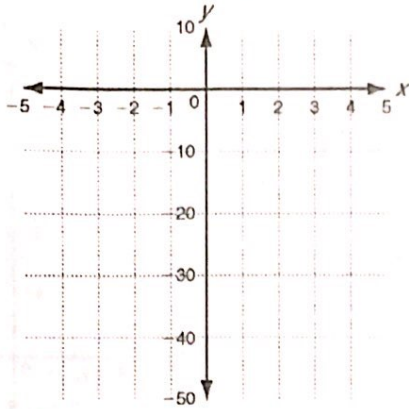
LESSON
4-1

Practice B
Exponential Functions, Growth, and Decay

Tell whether the function shows growth or decay. Then graph.

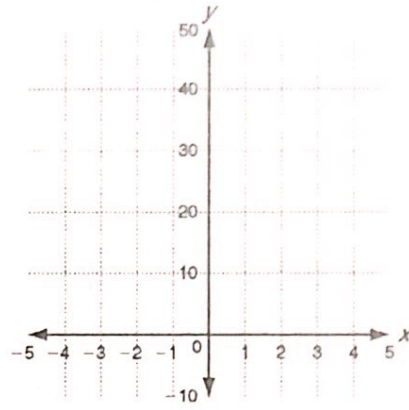
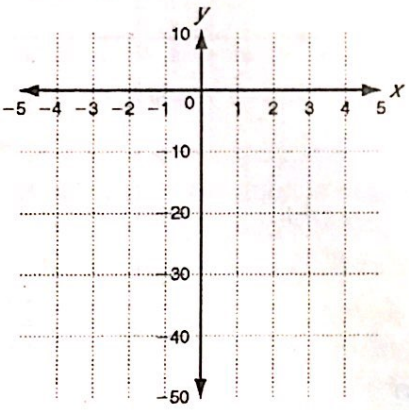
1. $g(x) = -(2)^x$

2. $h(x) = -0.5(0.2)^x$



3. $j(x) = -2(0.5)^x$

4. $p(x) = 4(1.4)^x$



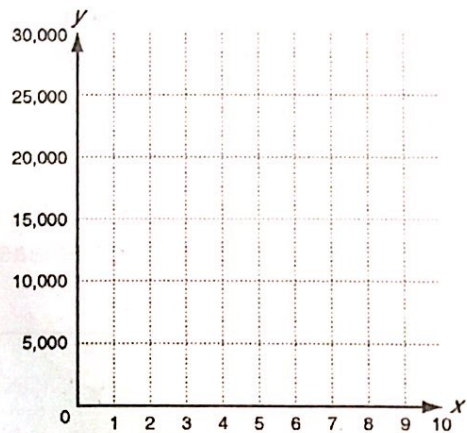
Solve.

5. A certain car depreciates about 15% each year.

a. Write a function to model the depreciation in value for a car valued at \$20,000.

b. Graph the function.

c. Suppose the car was worth \$20,000 in 2005. What is the first year that the value of this car will be worth less than half of that value?



LESSON
4-1

Practice C

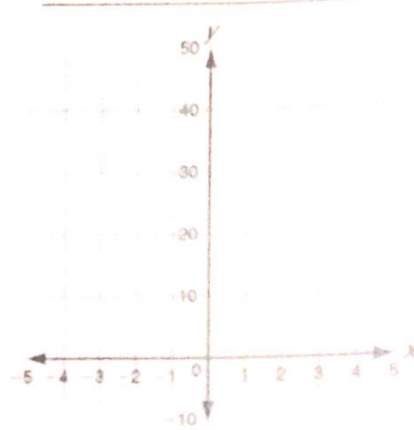
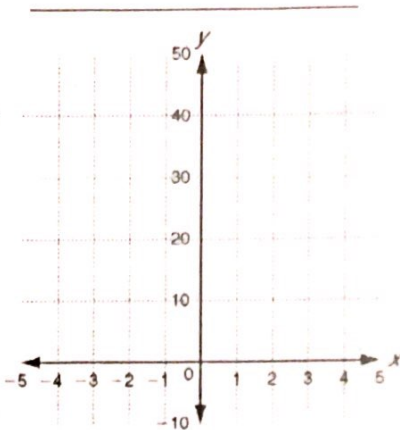
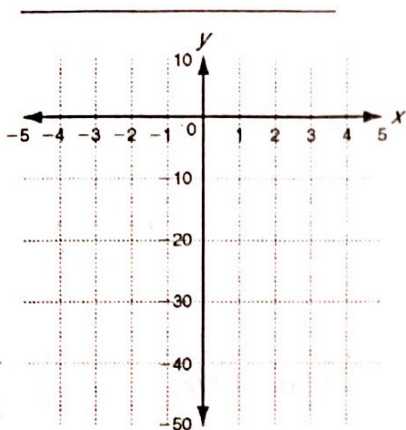
Exponential Functions, Growth, and Decay

Tell whether the function shows growth or decay. Then graph.

1. $j(x) = -3(0.04)^x$

2. $k(x) = 5(1.4)^x$

3. $p(x) = 0.25(6)^x$



Tell whether the function is an exponential function.

Write *yes* or *no*.

4. $f(x) = -2x^5 - 9$

5. $g(x) = -0.2(5)^x$

6. $h(x) = 10(2.2)^x$

Solve.

7. Colleen's station wagon is depreciating at a rate of 9% per year. She paid \$24,500 for it in 2002. What will the car be worth in 2008 to the nearest hundred dollars?

8. Kyle estimates that his business is growing at a rate of 5% per year. His profits in 2005 were \$67,000. Estimate his profits for 2010 to the nearest hundred dollars.

9. A parcel of land Jason bought in 2000 for \$100,000 is appreciating in value at a rate of about 4% each year.

a. Write a function to model the appreciation of the value of the land.

b. Graph the function.

c. In what year will the land double its value?

