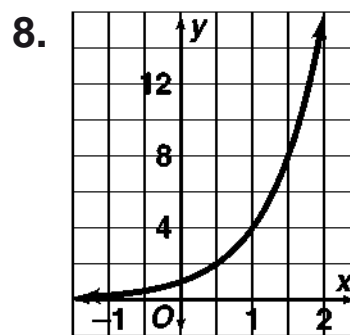
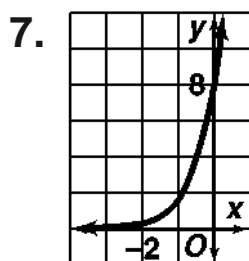
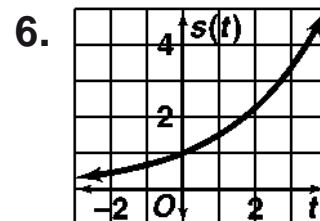
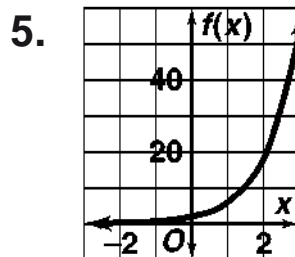
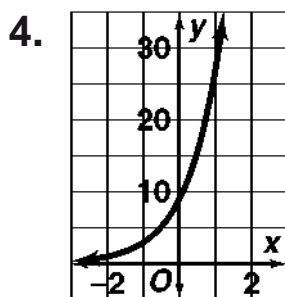
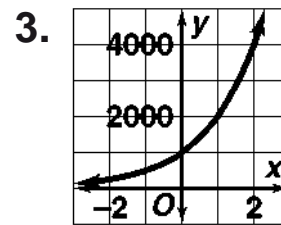
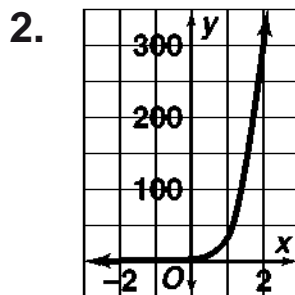
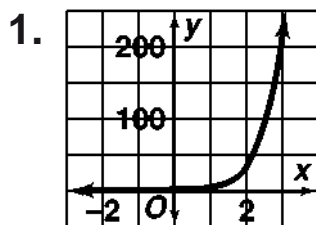


Answers for Lesson 8-1 Exercises



9. a. 1.0126

b. $y = 6.08(1.0126)^x$, where $x = 0$ corresponds to 2000

10. $y = 0.5(2)^x$

11. $y = 2.5(7)^x$

12. $y = 8(1.5)^x$

13. $y = 5(0.6)^x$

14. $y = 3(0.5)^x$

15. $y = 24\left(\frac{1}{3}\right)^x$

16. exponential growth

17. exponential decay

18. exponential growth

19. exponential decay

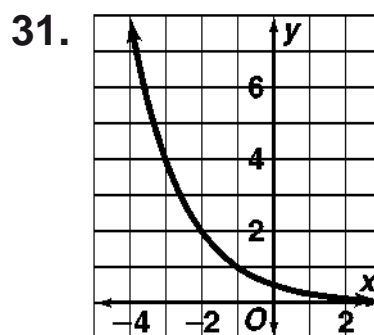
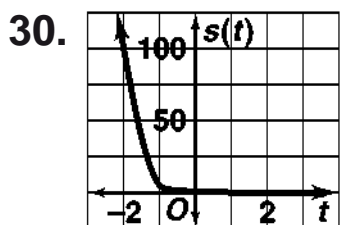
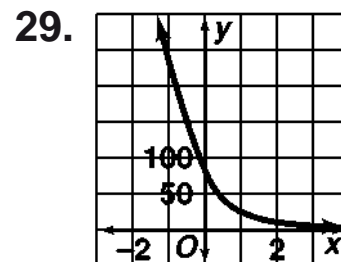
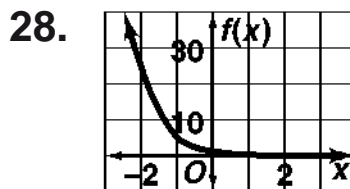
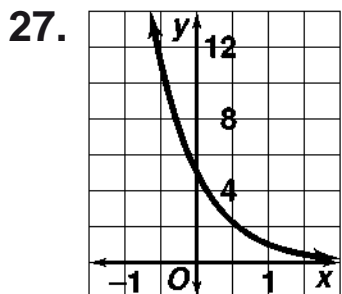
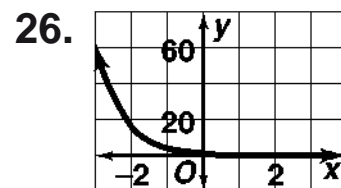
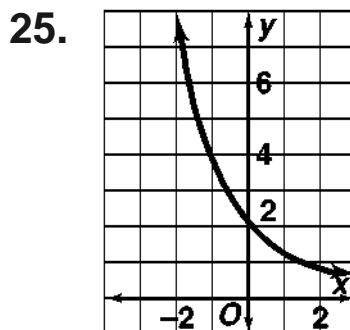
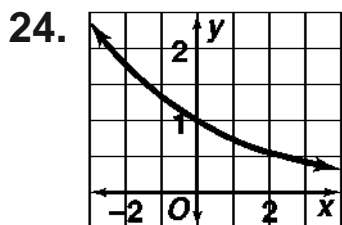
20. exponential decay

21. exponential growth

22. exponential growth

23. exponential decay

Answers for Lesson 8-1 Exercises (cont.)



32. $y = 100(0.5)^x$; 1.5625

33. $y = 12,000(0.9)^x$; 6377

34. $y = 12,000(0.1)^x$; 0.012

35. a. $y = 6500(0.857)^x$

b. \$4091.25

36. 63% increase

37. 30% increase

38. 35% decrease

39. 70% increase

40. 87.5% decrease

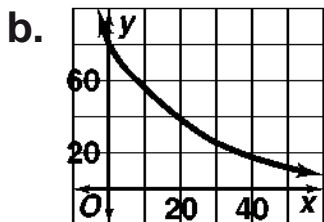
41. 75% decrease

42. D

Answers for Lesson 8-1 Exercises (cont.)

- 43. a.** about 5.6%
b. about 0.0017%
- 44. a.** Answers may vary. Sample: $y = 30,000(0.7)^x$ for car 1
 $y = 15,000(0.8)^x$ for car 2; car 2 will be worth more.
b. Check students' work.

45. a. $y = 80(0.965)^x$



about 47 years

- 46.** 1.70 **47.** 6 **48.** 0.25 **49.** 0.45
- 50.** 1.125 **51.** 0.999 **52.** 1.001 **53.** 2
- 54.** $y = 34(1.22)^x$, where x represents the number of years since 1995.
- 55.** Check students' work.
- 56.** about \$42,140
- 57.** C
- 58.** B; the graph shows a decreasing function, so $b < 1$, which eliminates A. The $y =$ values are all positive, which eliminates C.
- 59. a** A negative growth rate would be represented by adding the negative rate to 1.
b Armenia: $y = 11.8(1.099)^x$, Canada: $y = 958.7(1.017)^x$,
Germany: $y = 2271(0.999)^x$, Venezuela: $y = 117.9(0.908)^x$.
 x in each equation represents the number of years since 2003.
c Armenia: \$18.9 billion, Canada: \$1043 billion, Germany: \$2260 billion, Venezuela: \$72.8 billion