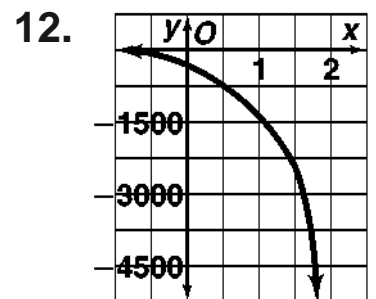
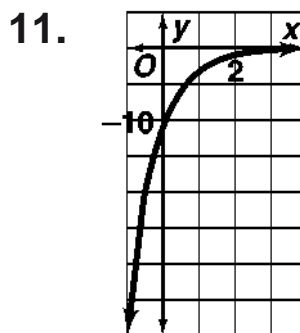
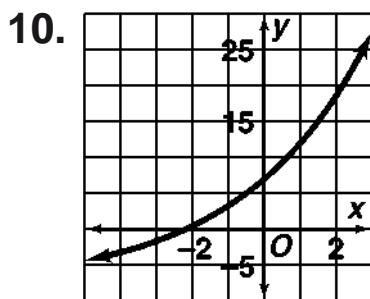
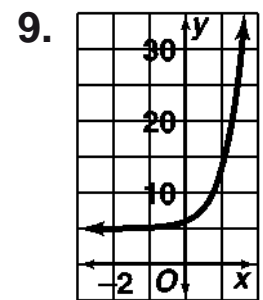
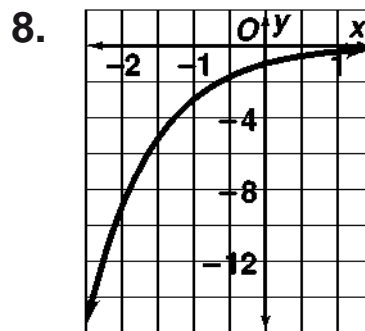
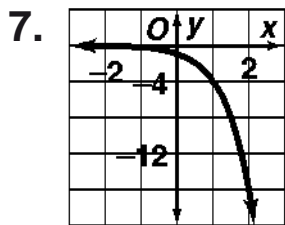
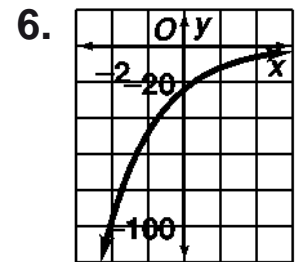
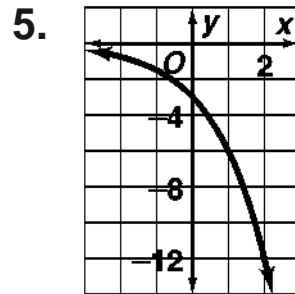
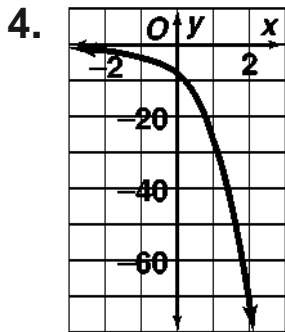
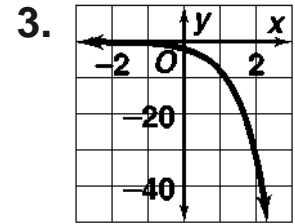
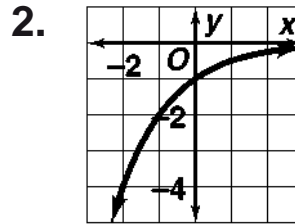
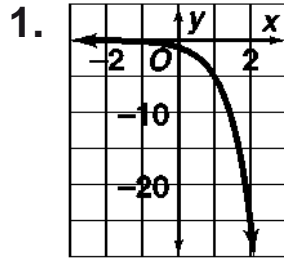
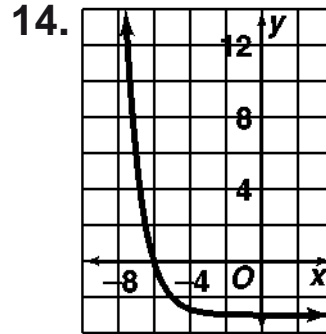
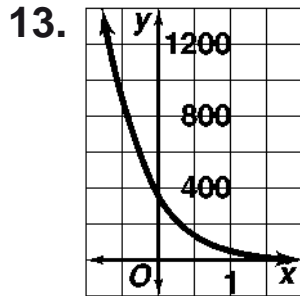


Answers for Lesson 8-2 Exercises

1-8. Asymptote is $y = 0$.



Answers for Lesson 8-2 Exercises (cont.)



15. $y = 50\left(\frac{1}{2}\right)^{14.3x}$; 0.85 mg

16. $y = 200\left(\frac{1}{2}\right)^{8.14x}$; 0.43 mg

17. $y = 24\left(\frac{1}{2}\right)^{5730x}$; 0.64 mg

18. 20.0855

19. 403.4288

20. 0.1353

21. 1

22. 12.1825

23. 15.1543

24. \$2330.65

25. \$448.30

26. \$1819.76

27. 0

28. 1

29. If $c < 0$, the graph models exponential decay. If $c = 0$, the graph is a horizontal line. If $c > 0$, the graph models exponential growth.

30. \$6168.41

31. a. Answers may vary. Sample: $y = -2(1.3)^x$

b. Answers may vary. Sample: I am in debt for \$2 and my debt is growing at a rate of 30% per year.

c. The graph of exponential decay approaches the asymptote $y = 0$ as x increases. The graph of negative exponential growth approaches the asymptote $y = 0$ as x decreases.

32. $y = 4\left(\frac{1}{2}\right)^x$; $y = 4\left(\frac{1}{2}\right)^{x+4} + 3$

Answers for Lesson 8-2 Exercises (cont.)

33. $y = -3^x$; $y = -3^{x-8} + 2$ **34.** $y = \frac{1}{2}(2)^x$; $y = \frac{1}{2}(2)^{x-6} - 7$

35. $y = -3\left(\frac{1}{3}\right)^x$; $y = -3\left(\frac{1}{3}\right)^{x+5} - 1$

36. 75.0 pascals

37. 8.7 yr

38. A deficit that is growing exponentially is modeled by $y = ab^{cx}$, where $a < 0$, and either $b > 1$ and $c > 0$ or $0 < b < 1$ and $c < 0$.

39. B

40. a. \$2501.50

b. \$3.15 more

41. \$399.97

42. exponential growth

43. exponential growth

44. exponential decay

45. exponential growth

46. exponential decay

47. exponential growth

48. a. $y = 8001 - 3^x$, where y is the number of uninfected people and x represents days.

b. 5814 people

c. about 9 days

49. a. about 10 names; about 24 names

b. Graphically, it will never happen; the graph has $y = 30$ as an asymptote. (In reality, you would be close to knowing all the names in about 21 days.)

c. Answers may vary. Sample: I learn names pretty quickly; my learning rate might be 0.4.

50. a. 2928 m^3

b. $V = 2928 - 15(2^x - 1)$

c. eighth weekend