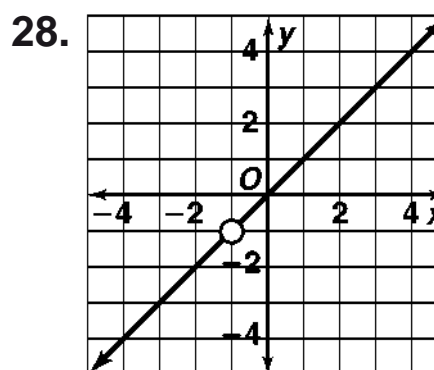
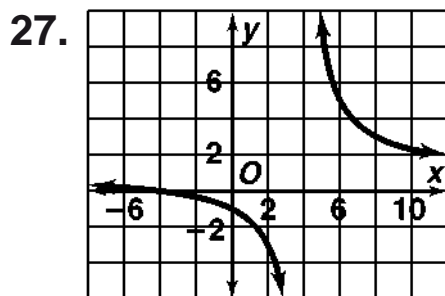
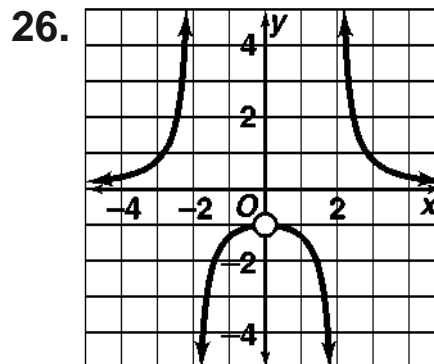
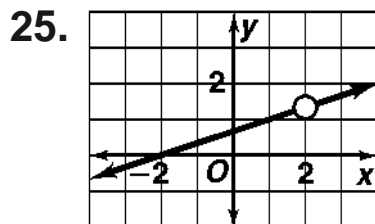
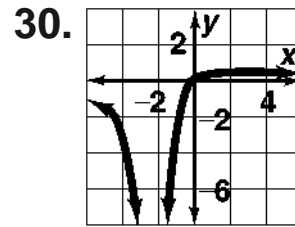
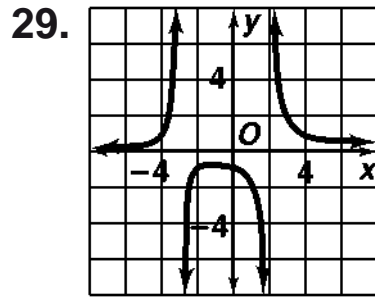


Answers for Lesson 9-3 Exercises

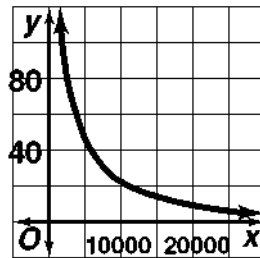
1. $x = 0, x = 2$
2. none
3. $x = 1, x = -1$
4. $x = 2, x = 3$
5. $x = -3$
6. $x = -\frac{7}{2}, x = 1$
7. $x = 2$
8. none
9. $x = -2.77, x = 1.277$
10. vertical asymptote at $x = -2$
11. hole at $x = -5$
12. vertical asymptotes at $x = -\frac{3}{2}$ and $x = 1$
13. vertical asymptote at $x = -1$, hole at $x = 2$
14. hole at $x = -2$
15. none
16. holes at $x = \pm 3$
17. none
18. vertical asymptote at $x = -5$, hole at $x = -\frac{2}{3}$
19. $y = 0$
20. $y = 0$
21. $y = 1$
22. $y = \frac{1}{2}$
23. $y = 0$
24. $y = \frac{3}{4}$



Answers for Lesson 9-3 Exercises (cont.)



31. a. $y = \frac{0.19x + 210,000}{x - 500}$



b. \$46.88; \$14.68

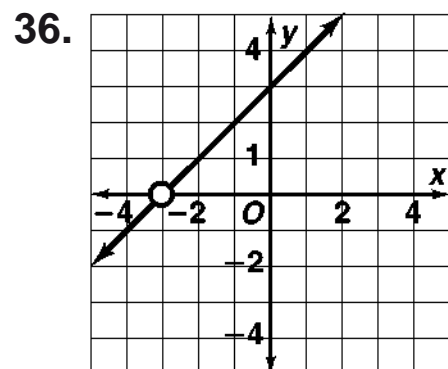
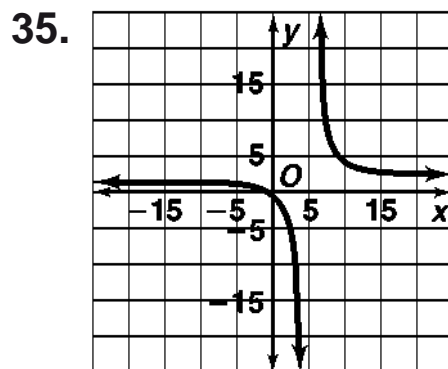
c. more than 21,916 discs

d. $x = 500$, $y = 0.19$

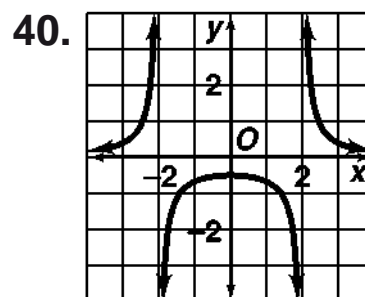
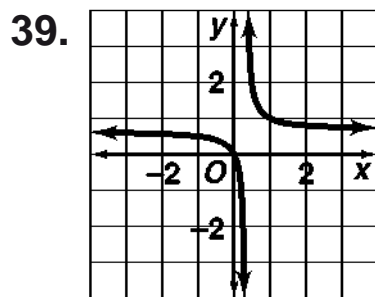
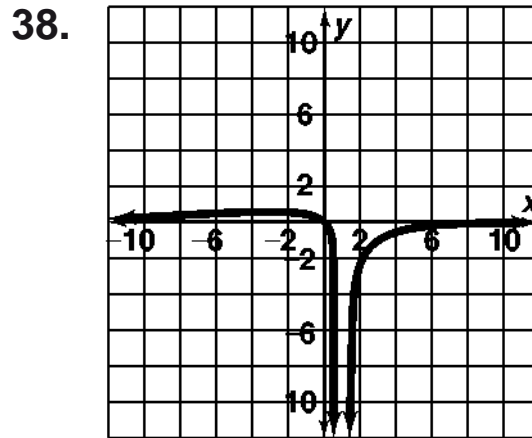
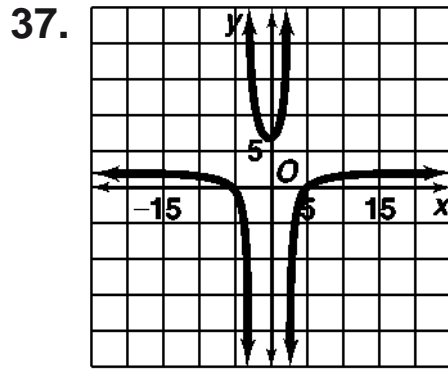
32. vertical asymptotes at $x = -3$ and $x = 3$, horizontal asymptote at $y = 0$

33. vertical asymptote at $x = -2$

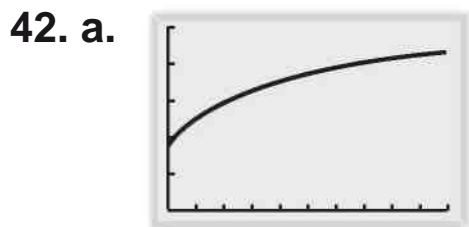
34. horizontal asymptote at $y = 0$



Answers for Lesson 9-3 Exercises (cont.)



41. Answers may vary. Sample: There is no value of x for which the denominator equals 0.

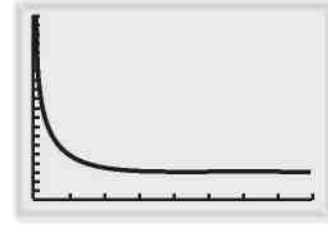


WINDOW FORMAT
 Xmin=0
 Xmax=100
 Xscl=10
 Ymin=0
 Ymax=1
 Yscl=1

b. 6 free throws

Answers for Lesson 9-3 Exercises (cont.)

43. a. $y = \frac{20,000x + 200,000}{x + 1}$



WINDOW FORMAT
 Xmin=0
 Xmax=40
 Xscl=4
 Ymin=0
 Ymax=200000
 Yscl=10000

b. \$65,000; \$25,806.45

c. Answers may vary. Sample: No; the president's salary throws off the average; the median or mode would be a better measure.

44. a. $P(n) = 4n^2$

b. $R(n) = 4n + 1$

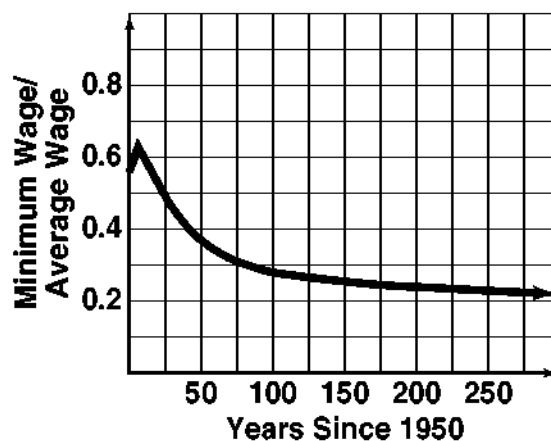
c. $y = \frac{4n^2}{4n + 1}$; $\frac{64}{17}$ check students' work.

45. a. The increase in production workers' average hourly wage is greater.

b. rational

c. $R(x) = \frac{M(x)}{A(x)}$

d.



around the year 2106