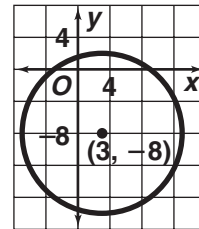
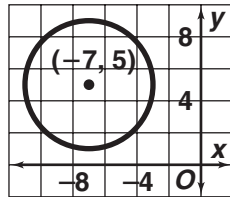


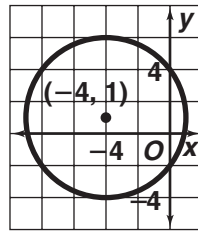
Answers for Lesson 12-5, pp. 697–699 Exercises

1. $(x - 2)^2 + (y + 8)^2 = 81$
2. $x^2 + (y - 3)^2 = 49$
3. $(x - 0.2)^2 + (y - 1.1)^2 = 0.16$
4. $(x - 5)^2 + (y + 1)^2 = 144$
5. $(x + 6)^2 + (y - 3)^2 = 64$
6. $(x + 9)^2 + (y + 4)^2 = 5$
7. $x^2 + y^2 = 16$
8. $(x + 4)^2 + y^2 = 9$
9. $(x + 1)^2 + (y + 1)^2 = 1$
10. $(x + 2)^2 + (y - 6)^2 = 16$
11. $(x - 1)^2 + (y - 2)^2 = 17$
12. $(x - 7)^2 + (y + 2)^2 = 52$
13. $(x + 10)^2 + (y + 5)^2 = 125$
14. $(x - 6)^2 + (y - 5)^2 = 61$
15. $(x + 1)^2 + (y + 4)^2 = 25$
16. center: $(-7, 5)$; radius: 4
17. center: $(3, -8)$; radius: 10

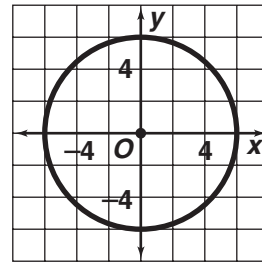


Answers for Lesson 12-5, pp. 697–699 Exercises (cont.)

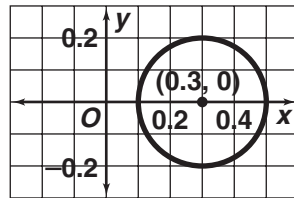
18. center: $(-4, 1)$; radius: 5



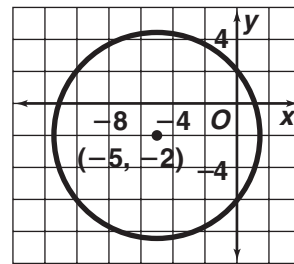
19. center: $(0, 0)$; radius: 6



20. center: $(0.3, 0)$; radius: 0.2



21. center: $(-5, -2)$; radius: $4\sqrt{3}$



22. $(x + 4)^2 + (y - 2)^2 = 16$

23. $(x - 4)^2 + (y + 4)^2 = 4$

24. $(x + 3)^2 + (y - 2)^2 = 25$

25. position: $(5, 7)$; range: 9 units

26. position: $(-4, 9)$; range: 12 units

27. $x^2 + y^2 = 4$

28. $x^2 + y^2 = 9$

29. $x^2 + (y - 3)^2 = 4$

30. $(x - 2)^2 + y^2 = 9$

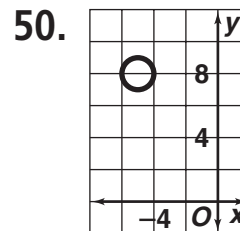
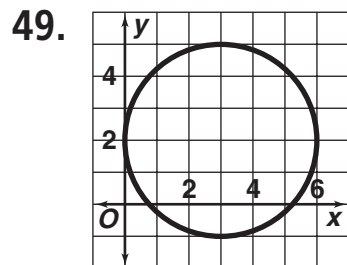
31. $(x - 2)^2 + (y - 2)^2 = 16$

32. $(x + 1)^2 + (y - 1)^2 = 4$

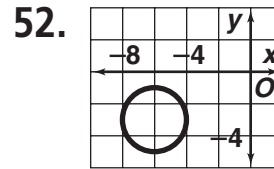
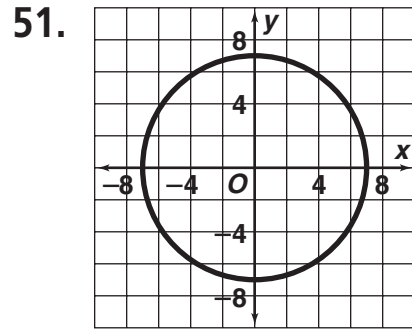
33. $(x - 4)^2 + (y - 3)^2 = 25$

Answers for Lesson 12-5, pp. 697–699 Exercises (cont.)

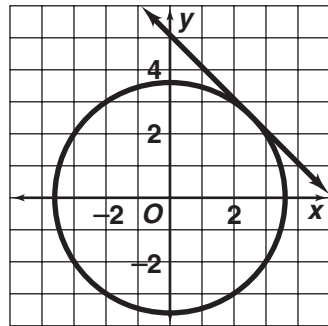
34. $(x - 5)^2 + (y - 3)^2 = 13$
35. $(x - 3)^2 + (y - 3)^2 = 8$
36. $(x + 3)^2 + (y + 1.5)^2 = 6.25$
37. $(x + 1.5)^2 + (y - 5)^2 = 18.25$
38. $(x - 2)^2 + (y + 2)^2 = 41$
39. $x^2 + y^2 = 1$
40. The graph is the point $(0, 0)$.
41. Check students' work.
42. yes
43. No; the x and y terms are not squared.
44. No; the x term is not squared.
45. circumference: 16π ; area: 64π
46. $(x - 4)^2 + (y - 7)^2 = 36$
47. x -int. = 13, y -int. = $\frac{39}{4}$
48. $(x - h)^2 + (y - k)^2 = r^2$
 $(y - k)^2 = r^2 - (x - h)^2$
 $y - k = \pm\sqrt{r^2 - (x - h)^2}$
 $y = \pm\sqrt{r^2 - (x - h)^2} + k$



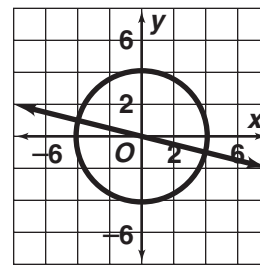
Answers for Lesson 12-5, pp. 697–699 Exercises (cont.)



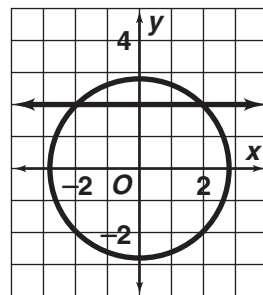
53. $(3, 2); (2, 3)$



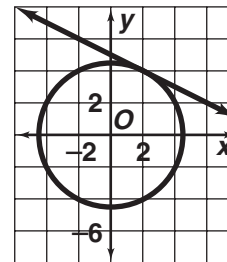
54. $(4, -1); (-4, 1)$



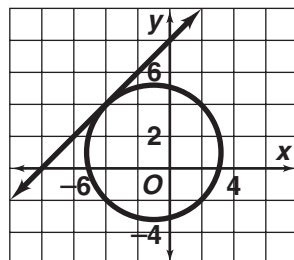
55. $(2, 2); (-2, 2)$



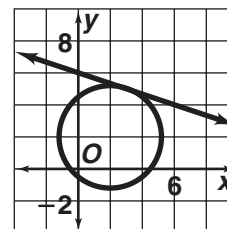
56. $(2, 4)$



57. $(-4, 4)$



58. $(3, 5)$



59–60. Explanations may vary. Sample: Solve the circle and line eqs. for y , enter in the calc., and use the zooming feature.

Answers for Lesson 12-5, pp. 697–699 Exercises (cont.)

- 61.** Answers may vary. Sample: Lines can appear tangent on a graph, but may not be.
- 62.** about 11.5, 11.5, 49.8, 49.8
- 63.** a. $x^2 + y^2 = 15,681,600$ b. 69.1 mi
c. 1.2 mi d. about 32 days
- 64.** a. $\sqrt{6}$
b. $(x + 1)^2 + (y - 3)^2 + (z - 2)^2 = 6$