

**Algebra 2/Trig
Second Semester
Final Review Solutions**

1. $x = 4$
2. $x = 3$
3. 9
4. 4
5. $x = \pm 8$
6. $x = -10, 1$
7. 1.5165
8. 1.7712
9. $n = 4$
10. $a = 4$
11. $x = 3.15$
12. $x = 8.85$
13. 1.46
14. 2.93
15. $x = 6$
16. $x = 16$
17. $k = .37$
18. $t = 13.3$
19. π
20. $\frac{17\pi}{6}, \frac{-7\pi}{6}$
21. $\cos \theta = \frac{-4}{5}$
22. $-2 \cot \theta \csc \theta$
23. $x = 7.26$
24. $\frac{-2\sqrt{3}}{3}$
25. $amp = \frac{2}{5}$ $period = \frac{2\pi}{5}$
26. graph
27. graph
28. $0 < \theta < \pi$ or $0 < \theta < 180^\circ$
29. $\frac{40}{9}$
30. $\frac{3\sqrt{2}}{4}$
31. $\frac{\sqrt{x^2 + 16}}{4}$
32. $x = 21.0$ mi north, 10.3 mi west

33. $N33.4^\circ E$ 383.3
34. $\sec^2 x$
35. $\sec^2 x + 3$ (work is your ans)
36. $1 - 2\sin^2 x$ (work is your ans)
37. $\frac{\pi}{3}, \frac{2\pi}{3}$
38. $\frac{\pi}{3}, \frac{2\pi}{3}, \frac{4\pi}{3}, \frac{5\pi}{3}$
39. $0, \pi$
40. $\frac{\sqrt{6} - \sqrt{2}}{4}$
41. $2 + \sqrt{3}$
42. $\frac{\sqrt{2}}{2}$
43. $\frac{4}{5}$
44. $\frac{-44}{117}$
45. $\frac{-7}{25}$
46. $\frac{24}{25}$
47. $\sin x = \frac{12}{13}, \tan x = \frac{-12}{5}, \sec x = \frac{-13}{5}$
 $\csc x = \frac{13}{12}, \cot x = \frac{-5}{12}$
48. (2,6), (-1,3)
49. (5,5)
50. (1,1)
51. Infinite many solutions,
dependent system
52. (1, -1, 2)
53. $\left(1, \frac{1}{2}, -3\right)$
54. no solution
55. $y = x^2 + 2x + 3$
56. graph
57. graph
58. graph
59. graph
60. $9+8=17@ (3,4)$ max
61. $n = 30$

62. $s_{20} = 1060$

63. $s_{34} = 119$

64. 162

65. $a_5 = 36$

66. 3

67. 45

68. 108

69. -195

70. $40a^2b^3$

71. $9375y^2$

72. 46656

73. 129360

74. $\frac{9}{91}$