Name _____ Class _____ Date _____

Practice 5-5

Quadratic Equations

Solve each equation by factoring, by taking square roots, or by graphing. Use each method at least 3 times.

When necessary, round your answer to the nearest hundredth.

1. $x^2 - 18x - 40 = 0$
2. $16x^2 = 56x$
3. $5x^2 = 15x$
4. $x^2 - 6x - 7 = 0$
5. $x^2 - 49 = 0$
6. $x^2 + 2x + 1 = 0$
7. $x^2 - 1 = 0$
8. $x^2 - 3x - 4 = 0$
9. $x^2 + 9x + 20 = 0$
10. $6x^2 + 9 = -55x$
11. $(x + 5)^2 = 36$
12. $2x^2 - 3x = 0$
13. $2x^2 + x - 10 = 0$
14. $-4x^2 + 3x = -1$
15. $x^2 - 144 = 0$

Solve each problem by graphing. Sketch the graph from your calculator and clearly indicate the solution(s).

16. An object is launched at 19.6 meters per second (m/s) from a 58.8-meter tall platform. The equation for the object's height s at time t seconds after launch is $s(t) = -4.9t^2 + 19.6t + 58.8$, where s is in meters. When does the object strike the ground?

17. A ball is thrown straight up, from 3 m above the ground, with a velocity of 14 m/s. The path of the ball is modeled by the equation $h = -5t^2 + 14t + 3$ where h = the height of the ball in meters and t = time in seconds. When will the ball hit the ground?