Name: _____ Date:_____ Period: _____   **Unit CA**

Unit 11 Corrective Assignment – Solving Quadratics

Solve each equation. Answers should be exact (simplified radical) unless otherwise indicated.

1. $\frac{x^2}{3} = 9$	2. $(x-10)^2 = 121$	3. $(x+15)^2 + 10 = 3$	4. $8(x+9)^2 - 12 = 28$

Solve each equation using the quadratic formula. Answers should be exact (simplified radical) unless otherwise indicated.

5. $x^2 + 4x - 21 = 0$	6. $6x^2 + 8x - 17 = x - 12$
7. $x^2 + 6x = 10$	8. $2x^2 - 3x = 11$ (round to hundredths!)

Solve each equation by completing the square. Answers should be exact (simplified radical) unless otherwise indicated.

9. $x^2 + 10x = -7$	10. $x^2 - 6x + 2 = 8$

11. Mr. Sullivan throws a baseball straight up into the air. The height $h(t)$ in feet of the ball after t seconds is modeled by
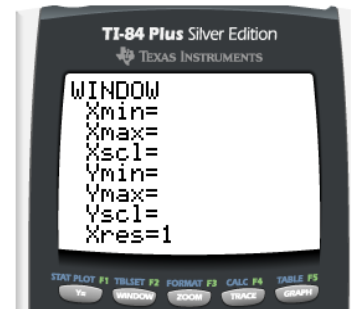
$$h(t) = -16t^2 + 42t + 7$$

a. Graph with a "friendly" window. Record window here.

b. Find $h(1)$.

c. What does $h(1)$ mean in the context of this problem?

d. How long will it take for the ball to hit the ground after it is thrown? (use completing the square or quadratic formula)

e. At what time(s) will the ball be 30 feet in the air?

Part 2 – No Calculator!

WITHOUT a calculator, approximate the square root to one decimal. JUSTIFY your answer with inequalities. [4 pts each]

12. $\sqrt{120}$	13. $\sqrt{11}$	14. $\sqrt{89}$

Simplify the following radicals. You can use any strategy EXCEPT a calculator. ☺ [4 pts]

15. $\sqrt{44}$	16. $\sqrt{32}$	17. $\sqrt{45} - 3\sqrt{20}$
18. $-\sqrt{20} - \sqrt{5}$	19. $\sqrt{28} \cdot \sqrt{21}$	20. $5\sqrt{6} \cdot 2\sqrt{21}$

Answers to Unit 11 Corrective Assignment

1. $\pm 3\sqrt{3}$	2. 21 or -1	3. No solution	4. $-9 \pm \sqrt{5}$	5. 3 or -7	6. $\frac{1}{2}$ or $-\frac{5}{3}$	7. $-3 \pm \sqrt{19}$
8. 3.21 or -1.71	9. $-5 \pm 3\sqrt{2}$		10. $3 \pm \sqrt{15}$	11a. WINDOW Xmin=-1 Xmax=5 Xscl=1 Ymin=-10 Ymax=5 Yscl=1		11b. 33 11c. Height after 1 second. 11d. 2.78 seconds 11e. 0.78 or 1.85
12. $\sqrt{100} < \sqrt{120} < \sqrt{121}$ ≈ 10.9		13. $\sqrt{9} < \sqrt{11} < \sqrt{16}$ ≈ 3.3		14. $\sqrt{81} < \sqrt{89} < \sqrt{100}$ ≈ 9.4		15. $2\sqrt{11}$
16. $4\sqrt{2}$		17. $-3\sqrt{5}$	18. $-3\sqrt{5}$	19. $14\sqrt{3}$		20. $30\sqrt{14}$