A1 Unit 6 Part 2 Assessment Retake Review Sheet

In numbers 1-3, simplify the expression.

1. $\sqrt{96}$

2. $\sqrt{50}$

3. $4\sqrt{18}$

In numbers 4-9, find the value of the discriminant and tell if the equation has *two solutions*, *one solution*, or *no real solution*. Then solve using the quadratic formula or factoring.

4. $0 = x^2 - x - 7$

5. $0 = x^2 - 6x + 8$

6. $2x^2 - 6x + 3 = 0$

7. $0 = x^2 + 10x + 15$

8. $x^2 + 4x + 4 = 0$

9. $13 = x^2 - 2x$

10. Identify the roots in the following quadratic equation $0 = x^2 - 7x - 11$

11. Identify the solution set to the following equation. $72 = (x-5)^2$

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12. Solve the following quadratic equation using competing the square. $0 = x^2 - 6x + 4$

$-4 \quad -4$

$-4 + +9 = x^2 - 6x + 9$

$\sqrt{5} = \sqrt{(x-3)^2}$

$\pm\sqrt{5} = x - 3$

$3 \pm \sqrt{5} = x$

$x = .764$
5.24

13. Rewrite the following quadratic function in vertex form. $y = x^2 - 4x + 5$

$-5 \quad -5$

$y - 5 = x^2 - 4x + 4$

$+4$

$y - 1 = (x-2)^2 + 1$

$+1$

$y = (x-2)^2 + 1$

14. Tom Brady throws a football from 6 feet above the ground with an initial velocity of 38 feet per second. (Vertical Motion Model: $h = -16t^2 + vt + s$)

a. If no one catches the ball, after how many seconds is the ball in the air.
b. If a teammate jumps to catch the ball at a height of 8 feet, how long is the ball in the air?

(a) $0 = -16t^2 + 38t + 6$

$38^2 - 4(-16)(6)$

1828

$x = \frac{-38 \pm \sqrt{1828}}{2(-16)} = 2.5$

(b) $8 = -16t^2 + 38t + 6$

$-8 \quad -8$

$0 = -16t^2 + 38t - 2$

$(38)^2 - 4(-16)(-2)$

1316

$x = \frac{-38 \pm \sqrt{1316}}{-32} = 2.32$

Look for a pattern in each table of values to determine which model best describes the data. Then write an equation for the function that models the data.

15.

x	-3	-1	1	3	5
y	-5	-2	1	4	7

$+3 \quad +3 \quad +3 \quad +3$

linear

$\frac{1+2}{1+1} = \frac{3}{2}$

$y - 1 = \frac{3}{2}(x-1)$

$y = \frac{3}{2}x - \frac{3}{2} + 1$

subtraction

$y = \frac{3}{2}x + \frac{1}{2}$