

Algebra 1
9.5 Worksheet #1

Name _____

Find the discriminant and tell if the equation has two solutions, one solution, or no real solution.

1. $x^2 - 3x + 2 = 0$	2. $2x^2 - 4x + 3 = 0$
3. $-3x^2 + 5x - 1 = 0$	4. $3x^2 - 6x + 3 = 0$

Use the quadratic formula to solve the equation. Write your answers in simplest radical form.

5. $2x^2 + 13x + 6 = 0$	6. $5x^2 + 8x - 3 = 0$
7. $-5x^2 + 9x = 4$	8. $-10x^2 + 3x = -2$

Use the Falling Object Model, $h_t = -16t^2 + v_0t + h_0$, to answer the following.

9. An eagle dives toward a mouse. When the eagle is at a height of 125 feet the mouse sees the eagle, which is diving at 145 feet per second. Estimate the time the mouse has to escape to the nearest hundredth of a second.

10. A lacrosse player throws a ball upward from her playing stick with an initial height of 7 feet, at an initial speed of 90 feet per second. How long will it take the ball to reach the ground to the nearest hundredth of a second?

Simplify each radical.

11. $3\sqrt{45}$

12. $4\sqrt{3} \cdot 2\sqrt{7}$

13. $\sqrt{\frac{9}{121}}$

14. $\sqrt{\frac{99}{25}}$