



Name _____ Date _____ Period _____

QUADRATIC FORMULA WORKSHEET

Solve each equation using the quadratic formula: $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

1. $2x^2 + x = 9$

2. $x^2 - 2x = 5$

3. $y^2 - 2y - 2 = 0$

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

5. $12w - 9w^2 = -3$

6. $2x^2 + x = 9$

7. $s^2 = 8s - 35$

8. $6x^2 - 8x + 3 = 0$

9. $3 = 16p - 20p^2$

Find the discriminant and decide whether the equation has zero, one or two real solutions.

10. $4x^2 + 5x = -3$

11. $x^2 = -3x + 1$

12. $8x^2 + 8x + 2 = 0$

13. Highway safety engineers use the formula $d = 0.05s^2 + 1.1s$ to estimate the minimum stopping distance, d , in feet for a vehicle traveling, s , miles per hour. If a car is able to stop after 125 feet, what is the fastest it could have been traveling when the driver first applied the brakes?

14. Using the model $h = -16t^2 + v_0t + h_0$, a cheer squad throws a basket toss. The cheerleader leaves their hands 6 feet above the ground and has an initial vertical velocity of 45 feet per second. The group catches the girl when she falls back to a height of 5 feet. How long is the girl in the air?

15. The length l (in feet) of runway needed for a small airplane to land is given by $l = 0.1s^2 - 3s + 22$ where s is the airplane's speed (in feet per second). If a pilot is landing a small airplane on a runway 2000 feet long, what is the maximum speed at which the pilot can land?