Name _____ Class _____ Date _____

9-6 Practice

Form G

The Quadratic Formula and the Discriminant

Use the quadratic formula to solve each equation.

1. $7c^2 + 8c + 1 = 0$
2. $2w^2 - 28w = -98$
3. $2j^2 - 3j = -1$
4. $2x^2 - 6x + 4 = 0$
5. $2n^2 - 6n = 8$
6. $-7d^2 + 2d + 9 = 0$
7. $2a^2 + 4a - 6 = 0$
8. $-3p^2 + 17p = 20$
9. $4d^2 - 8d + 3 = 0$

Use the quadratic formula to solve each equation. Round answers to the nearest hundredth.

10. $h^2 - 2h - 2 = 0$
11. $5x^2 + 3x = 1$
12. $-z^2 - 4z = -2$
13. $t^2 + 10t = -22$
14. $3n^2 + 10n = 5$
15. $s^2 - 10s + 14 = 0$

16. A basketball is passed through the air. The height h of the ball in feet after the distance d in feet the ball travels horizontally is given by $h = -d^2 + 10d + 5$. How far horizontally from the player passing the ball will the ball land on the ground?

Which method(s) would you choose to solve each equation? Justify your reasoning.

17. $h^2 + 4h + 7 = 0$
18. $a^2 - 4a - 12 = 0$
19. $24y^2 - 11y - 14 = 0$
20. $2p^2 - 7p - 4 = 0$
21. $4x^2 - 144 = 0$
22. $f^2 - 2f - 35 = 0$

23. **Writing** Explain how the discriminant can be used to determine the number of solutions a quadratic equation has.