Algebra 2 Name_____

Solving Quadratic Equations All Methods

Date_____ Period____

Solve each equation by factoring.

1) $r^2 + 5r - 14 = 0$

2) $m^2 + 10m + 21 = 0$

3) $n^2 + 6n - 7 = 0$

4) $x^2 + 11x + 24 = 0$

5) $5k^2 - 17k + 14 = 0$

6) $7x^2 - 3x - 4 = 0$

7) $15b^2 + 34b + 15 = 0$

8) $6n^2 - 35n + 25 = 0$

9) $3x^2 + 4x - 32 = 0$

10) $7a^2 - 12a - 4 = 0$

11) $7v^2 + 32v + 16 = 0$

12) $7n^2 + 32n - 15 = 0$

Solve each equation by taking square roots.

13) $9 - 2m^2 = -63$

14) $4n^2 + 1 = 65$

15) $9 - 10r^2 = -801$

16) $7n^2 - 5 = 562$

17) $5 - 6b^2 = -571$

18) $3x^2 + 1 = 13$

19) $9x^2 - 1 = 323$

20) $81p^2 - 4 = 60$

Solve each equation by completing the square.

21) $x^2 - 6x - 27 = 0$

22) $r^2 - 10r + 24 = 0$

23) $8n^2 - 16n - 66 = 0$

24) $3a^2 + 18a + 9 = 0$

25) $x^2 - 10x - 59 = 6$

26) $v^2 - 2v - 38 = 10$

27) $2x^2 - 4x - 58 = -10$

28) $4n^2 + 8n - 41 = 5$

Solve each equation with the quadratic formula.

29) $k^2 - 11k - 102 = 0$

30) $p^2 + 4p - 32 = 0$

31) $-2n^2 + 7n + 6 = 3$

32) $6x^2 + 2x - 3 = 10$

33) $5b^2 = -3 - 8b$

34) $-2n^2 = 12 + 10n$

35) $6x^2 - 11x = 72$

36) $-3v^2 = -42 + 11v$

Use the discriminant to determine the number of real solutions to each equation.

37) $9n^2 - 3n + 9 = 0$

38) $4x^2 - 8 = 0$

39) $a^2 - 2a + 5 = 2$

40) $2k^2 - 9k + 9 = 2$