Algebra 2 Name_____

Factoring Quadratic Expressions and Solving Equations

Period____

Factor each completely. ($a = 1$, no common factor)

1) $m^2 - 14m + 45$

2) $p^2 + 7p$

3) $x^2 - 49$

4) $x^2 + 13x + 42$

Factor each completely. ($a = 1$, common factor)

5) $6n^2 - 150$

6) $6k^2 + 6k - 12$

7) $2k^2 - 20k + 50$

8) $5b^2 - 30b + 45$

Factor each completely. ($a \neq 1$, no common factor)

9) $7r^2 - 4r$

10) $2r^2 - 21r + 54$

11) $5k^2 + 9k - 18$

12) $2n^2 + 3n - 35$

Factor each completely. ($a \neq 1$, common factor)

13) $30v^2 + 54v - 108$

14) $15r^2 - 162r + 243$

15) $35m^2 - 90m - 45$

16) $35m^2 + 135m + 90$

Solve each equation by factoring.

17) $v^2 = v + 56$

18) $p^2 = 49$

19) $m^2 + 1 = -2m$

20) $m^2 - 4m = 5$

21) $8m^2 + 240 = 88m$

22) $4m^2 = -120 + 44m$

23) $4p^2 + 8p = 140$

24) $6n^2 + 96 = 48n$

25) $2x^2 + 17x = -8$

26) $7x^2 + 22x = 24$

27) $7r^2 + 52r = 32$

28) $5x^2 = -28x + 49$

29) $12p^2 + 126 = -102p$

30) $25x^2 + 20x = 0$

31) $126k^2 + 252 = -402k$

32) $280x^2 - 192 = 176x$