Geometry 1 - Mr. C. - All work on looseleaf. Name_____

Week 7 Practice - factorable quad. eq., discriminant, Date_____ Period____

Solve each equation by factoring.

1) $x^2 + 2 = -3x$

2) $a^2 + 2a = 15$

3) $r^2 - 3 = -2r$

4) $a^2 + 8a = -15$

5) $p^2 = -4 - 5p$

6) $5 - 6v = -v^2$

7) $6 = -b^2 + 5b$

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

9) $n^2 - 8 = 2n$

10) $x = -x^2 + 2$

11) $k^2 + 7k = -10$

12) $-9x = -x^2 - 20$

13) $0 = -12 - 3r^2 + 13r$

14) $1 - 7x = -10x^2$

15) $-5 = 7m - 6m^2$

16) $6v^2 - 12 = v$

17) $0 = -2b^2 - 5 + 7b$

18) $5k^2 - 27k = -10$

19) $7x = -2x^2 + 4$

20) $21n = -5 - 4n^2$

21) $-8a = -5a^2 + 4$

22) $12 + 19n = -5n^2$

23) $3x^2 - 10 = x$

24) $24n = -16 - 5n^2$

Find the discriminant of each quadratic equation then state the number and type of solutions.

25) $-4b^2 = -4$

26) $4x^2 + 4x = -1$

27) $5n^2 + 5 = -3n$

28) $-6m^2 = 3m + 5$

29) $-2p^2 = 2 + 4p$

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

31) $5a^2 + 4a = -3$

32) $n^2 + 1 = -4n$

33) $-v^2 - 4 = 3v$

34) $-r^2 + 6 = -r$

35) $-x^2 = 4 - 4x$

36) $2x^2 - 5x = 4$

37) $n^2 = -2n - 1$

38) $5n^2 - 2 = -3n$

39) $-4x^2 = 4x + 1$

40) $4x^2 + 1 = x$

Answers to Week 7 Practice - factorable quad. eq., discriminant, (ID: 1)

1) $\{-1, -2\}$
2) $\{3, -5\}$
3) $\{1, -3\}$
4) $\{-5, -3\}$
5) $\{-4, -1\}$
6) $\{5, 1\}$
7) $\{2, 3\}$
8) $\{5, -1\}$
9) $\{-2, 4\}$
10) $\{1, -2\}$
11) $\{-2, -5\}$
12) $\{4, 5\}$
13) $\left\{\frac{4}{3}, 3\right\}$
14) $\left\{\frac{1}{2}, \frac{1}{5}\right\}$
15) $\left\{-\frac{1}{2}, \frac{5}{3}\right\}$
16) $\left\{\frac{3}{2}, -\frac{4}{3}\right\}$
17) $\left\{\frac{5}{2}, 1\right\}$
18) $\left\{\frac{2}{5}, 5\right\}$
19) $\left\{\frac{1}{2}, -4\right\}$
20) $\left\{-\frac{1}{4}, -5\right\}$
21) $\left\{-\frac{2}{5}, 2\right\}$
22) $\left\{-\frac{4}{5}, -3\right\}$
23) $\left\{-\frac{5}{3}, 2\right\}$
24) $\left\{-\frac{4}{5}, -4\right\}$

25) 64; two rational solutions
26) 0; one rational solution
27) −91; two imaginary solutions
28) −111; two imaginary solutions
29) 0; one rational solution
30) 8; two irrational solutions
31) −44; two imaginary solutions
32) 12; two irrational solutions
33) −7; two imaginary solutions
34) 25; two rational solutions
35) 0; one rational solution
36) 57; two irrational solutions
37) 0; one rational solution
38) 49; two rational solutions
39) 0; one rational solution
40) −15; two imaginary solutions