Algebra 2 Name_____

Homework (Solutions on Next Page)

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

1) $10n^2 - 6n = -5 + 2n$

2) $7a^2 + 2a + 7 = 6a^2 + 6$

3) $9x^2 + 4x + 1 = 6x^2$

4) $-18m^2 - 14 = 12m - 8m^2$

5) $-2v^2 + 14v - 4 = -v^2 + 10v$

Solve each equation using the quadratic formula.

6) $4r^2 = 64$

7) $n^2 = -4 - 4n$

8) $8r^2 = -2 + r$

9) $5x^2 + 10x + 5 = 7x$

10) $4v^2 - 13 - 8v = -6 - 8v$

11) $-2a^2 - 5a - 1 = 7 - 9a^2 - a$

Answers to Homework (Solutions on Next Page)

1) -136; two imaginary solutions
2) 0; one rational solution
3) 4; two rational solutions
4) -416; two imaginary solutions
5) 0; one rational solution
6) $\{4, -4\}$
7) $\{-2\}$
8) $\left\{\frac{1+3i\sqrt{7}}{16}, \frac{1-3i\sqrt{7}}{16}\right\}$
9) $\left\{\frac{-3+i\sqrt{91}}{10}, \frac{-3-i\sqrt{91}}{10}\right\}$
10) $\left\{\frac{\sqrt{7}}{2}, -\frac{\sqrt{7}}{2}\right\}$
11) $\left\{\frac{2+2\sqrt{15}}{7}, \frac{2-2\sqrt{15}}{7}\right\}$