

## Discriminant &amp; Quadratic Formula

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

1)  $-b^2 - 2b - 10 = -9$

0; one real solution

2)  $-9n^2 - 6n - 6 = -5$

0; one real solution

3)  $-8k^2 + 3k - 13 = -10$

-87; two imaginary solutions

4)  $-3a^2 + 7a = 2$

25; two real solutions

5)  $-3b^2 - 4b - 3 = -7$

64; two real solutions

6)  $-6m^2 - 8m - 14 = -7$

-104; two imaginary solutions

Solve each equation with the quadratic formula.

7)  $n^2 + 5n + 6 = 0$

 $\{-2, -3\}$ 

8)  $p^2 + 5p - 6 = 0$

 $\{1, -6\}$ 

9)  $10m^2 = 4$

 $\left\{ \frac{\sqrt{10}}{5}, -\frac{\sqrt{10}}{5} \right\}$ 

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

 $\left\{ \frac{7 + \sqrt{373}}{18}, \frac{7 - \sqrt{373}}{18} \right\}$ 

11)  $11m^2 - 8 = 8m^2 + 6 + 4m$

 $\left\{ \frac{2 + \sqrt{46}}{3}, \frac{2 - \sqrt{46}}{3} \right\}$ 

12)  $10v^2 + 5 - 5v = -5v$

 $\left\{ \frac{i\sqrt{2}}{2}, -\frac{i\sqrt{2}}{2} \right\}$