

## Discriminant and Quadratic Formula

Hour: \_\_\_\_\_

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

1)  $-k^2 + 2k + 3 = 0$

2)  $9x^2 - x + 12 = 0$

3)  $-4n^2 - 12n - 9 = 0$

4)  $4p^2 + 6p + 7 = 11$

**Solve each equation with the quadratic formula.**

5)  $10n^2 - 8 = 0$

6)  $4x^2 + 2x - 110 = 0$

7)  $8x^2 + 12x - 9 = 0$

8)  $2k^2 - 3k - 12 = 5$

## Discriminant and Quadratic Formula

Hour: \_\_\_\_\_

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

1)  $-k^2 + 2k + 3 = 0$

16; two real solutions

2)  $9x^2 - x + 12 = 0$

-431; two imaginary solutions

3)  $-4n^2 - 12n - 9 = 0$

0; one real solution

4)  $4p^2 + 6p + 7 = 11$

100; two real solutions

**Solve each equation with the quadratic formula.**

5)  $10n^2 - 8 = 0$

$$\left\{ \frac{2\sqrt{5}}{5}, -\frac{2\sqrt{5}}{5} \right\}$$

6)  $4x^2 + 2x - 110 = 0$

$$\left\{ 5, -\frac{11}{2} \right\}$$

7)  $8x^2 + 12x - 9 = 0$

$$\left\{ \frac{-3 + 3\sqrt{3}}{4}, \frac{-3 - 3\sqrt{3}}{4} \right\}$$

8)  $2k^2 - 3k - 12 = 5$

$$\left\{ \frac{3 + \sqrt{145}}{4}, \frac{3 - \sqrt{145}}{4} \right\}$$