Honors math II Name_____

Unit 4 day 6 notes

Bell Work

Convert to vertex form by completing the square.

1. $y = 2x^2 + 8x - 9$

Solve by completing the square.

2. $2x^2 - 12x + 7 = 0$

3. $3x^2 - 3x + 8 = 0$

QUADRATIC FORMULA

$$\boldsymbol{x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}}$$

$$\boldsymbol{ax^2 + bx + c = 0}$$

where *a*, b, and c come from any quadratic equation.

Solve:

$x^2 + 3x = 2$ Make the equation =0 a = b = c =

$$\boldsymbol{x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}}$$

Solve: $25x^2 - 18x = 12x - 9$

$$\boldsymbol{x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}}$$

Solve: $-x^2 + 4x = 5$

Solve: $4x^2 - 10x = 2x - 6$

Discriminant:

$$\boldsymbol{x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}}$$

$b^2 - 4ac$ is called the discriminant. This tells you how many solutions you have.

if $b^2 - 4ac > 0$ then you have 2 real solutions.
if $b^2 - 4ac < 0$ then you have 2 imaginary solutions.
if $b^2 - 4ac = 0$ then you have 1 real solution.