

November 18, 2015

\* Exam # 3 - Monday  
November 30<sup>th</sup>

60% - 40%  
↓  
Prior exams

- Solving Quadratics

- Square Root Property
- Completing the Square
- Quadratic Formula

- Graphing Quadratics

$h =$   
 $k =$

Vertex:  $(h, k)$

A.S.:  $x = -h$

Opens:  $\uparrow$

Shape: Parent

Solutions: Type & number

y-int.:  $(0, 7)$

x-int.:

Discriminate:  $b^2 - 4ac$

①  $ax^2 + bx + c = 0$

②  $a(x-h)^2 + k = 0$

Vertex:  $(h, k)$

Vertex:  $(-\frac{b}{2a}, f(-\frac{b}{2a}))$

$h = -\frac{b}{2a}$   $k = f(h)$

Nov 18-10:02 AM

$x^2 + 4x + 7 = 0$

$h = -2$   
 $k = 3$

Vertex:  $(-2, 3)$

A.S.:  $x = -2$

Opens:  $\uparrow$

Shape: Parent

Solutions: Type & number: 2 Complex

y-int.:  $(0, 7)$

x-int.:

$x^2 + 4x + 7 = 0$

$h = x = -\frac{b}{2a} = -\frac{4}{2(1)} = -2$

$f(-2) = (-2)^2 + 4(-2) + 7 = 0$

$= 4 - 8 + 7$

$= -4 + 7$

$= 3$

Nov 18-10:15 AM

$x^2 + 4x + 7 = 0$

$x^2 + 4x = -7$

②  $4 \cdot \frac{1}{2} = 2$

③  $(2)^2 = 4$

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

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

$(x + 2)^2 + 3 = 0$

$h = -2$   $k = 3$

$b^2 - 4ac = (4)^2 - 4(1)(7)$

$= 16 - 28$

$= -12$

$-12 < 0 \rightarrow 2 \text{ Complex}$

Nov 18-10:35 AM

$x^2 + 4x + 7 = 0$

$x = \frac{-(-4) \pm \sqrt{-12}}{2(1)}$

$= \frac{-4 \pm 2i\sqrt{3}}{2}$

$= -\frac{4}{2} \pm \frac{2i\sqrt{3}}{2}$

$= -2 \pm i\sqrt{3}$

Nov 18-10:47 AM