

# Alg I B Handwritten Quiz

Completing the square

$a=1$  /  $b=-4$  /  $c=-45$

$$y = x^2 - 4x - 45$$

$$x^2 - 4x - 45 = 0$$

$$x^2 - 4x + 4 = 49$$

$$(x-2)^2 = 49$$

$$x-2 = \pm 7$$

$$x = 2 \pm 7$$

$$x = 2+7 = 9 \text{ "Roots"}$$

$$x = 2-7 = -5$$

$$\left(\frac{b}{2}\right)^2$$

$$\left(\frac{-4}{2}\right)^2$$

$$-2^2$$

$$4$$

factoring

$$y = x^2 - 4x - 45$$

$$x^2 - 4x - 45 = 0$$

$$x-9=0 \quad x+5=0$$

$$+9 \quad +9 \quad -5 \quad -5$$

$$(x-9)(x+5)$$

"Roots"

Vertex

$$y = x^2 - 4x - 45$$

$$y = x^2 - 4x - 45$$

$$y = (2)^2 - 4(2) - 45$$

$$y = 4 - 8 - 45$$

$$y = -49$$

$$(2, -49)$$

$$x = \frac{-b}{2a}$$

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

$$x = \frac{4}{2}$$

$$x = 2$$

axis of symmetry

Quadratic Formula

$$y = x^2 - 4x - 45 \quad a=1 \quad b=-4 \quad c=-45$$

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

$$x = \frac{-(-4) \pm \sqrt{(-4)^2 - 4(1)(-45)}}{2(1)}$$

$$x = \frac{4 \pm \sqrt{16 + 180}}{2}$$

$$x = \frac{4 \pm \sqrt{196}}{2}$$

$$x = \frac{4 \pm 14}{2}$$

$$x = \left( \frac{4+14}{2} = 9 \right) \text{ "Roots"}$$

$$x = \left( \frac{4-14}{2} = -5 \right)$$

