BROWARD COLLEGE

MAC1105 COLL ALGEBRA ENHANCED 556794

Day 7 Class Work

MAC1105 Day 7 Classwork: Solving Quadratic Equations

Name Key Score _____

Solve each equation using the indicated method.

Solve by the square root property.

1. $x^2 = -100$

$X = \pm\sqrt{-100}$

$X = \pm 10i$

Solve by completing the square.

2. $x^2 - x - 1 = 0$

$X^2 - X = 1$

$X^2 - X + \left(\frac{-1}{2}\right)^2 = 1 + \left(\frac{-1}{2}\right)^2$

$\left(X - \frac{1}{2}\right)^2 = 1 + \frac{1}{4} = \frac{5}{4}$

$X - \frac{1}{2} = \pm\sqrt{5/4} = \pm\frac{\sqrt{5}}{\sqrt{4}} = \pm\frac{\sqrt{5}}{2}$

$X = \frac{1}{2} \pm \frac{\sqrt{5}}{2} = \frac{1 \pm \sqrt{5}}{2}$

3. $2x^2 - 4x - 3 = 0$

$X^2 - 2x - \frac{3}{2} = 0$

$X^2 - 2x = 3/2$

$X^2 - 2x + \left(\frac{-2}{2}\right)^2 = 3/2 + (-1)^2$

$(X-1)^2 = \frac{5}{2}$

$X - 1 = \pm\sqrt{5/2} = \pm\frac{\sqrt{5}}{\sqrt{2}} = \pm\frac{\sqrt{5}\sqrt{2}}{2} = \frac{\sqrt{10}}{2}$

$X = 1 \pm \frac{\sqrt{10}}{2}$