

Math 0099
University of North Georgia
Spring 2015
Quiz #9

Name: Key Date: April 17, 2015

Use the *Square Root Property* to solve.

1. $(2z - 3)^2 + 25 = 0$

$$(2z - 3)^2 = -25$$

$$2z - 3 = \pm 5i$$

$$2z = 3 \pm 5i$$

$$z = \frac{3}{2} \pm \frac{5}{2}i$$

Use *Completing the Square* to solve.

2. $x^2 + 6x + 2 = 0$

$$x^2 + 6x = -2$$

a. $6 \cdot \frac{1}{2} = 3$

b. $3^2 = 9$

$$x^2 + 6x + 9 = -2 + 9$$

$$(x + 3)^2 = 7$$

$$x + 3 = \pm \sqrt{7}$$

$$x = -3 \pm \sqrt{7}$$

3.) Show that $x = \frac{-7-\sqrt{33}}{2}$ is a solution to $x^2 + 7x + 4 = 0$

$$\left(\frac{-7-\sqrt{33}}{2}\right)^2 + 7\left(\frac{-7-\sqrt{33}}{2}\right) + 4 = 0$$

$$\frac{49 + 14\sqrt{33} + 33}{4} - \frac{49}{2} - \frac{7\sqrt{33}}{2} + 4 = 0$$

$$\frac{82 + 14\sqrt{33}}{4} - \frac{98}{4} - \frac{14\sqrt{33}}{4} + 4 = 0$$

$$\frac{82 - 98}{4} + 4 = 0$$

$$- \frac{16}{4} + 4 = 0$$

$$- 4 + 4 = 0$$

$$0 = 0 \checkmark$$