Foundations for College Algebra
University of North Georgia
Fall 2015
Quiz #6

Name: _Key_ 　　　　　　　　Date: _November 11, 2015_

Factor completely.

1. $49x^2 - 81$ 　 $a = 7x$, 　 $b = 9$

$$\boxed{(7x + 9)(7x - 9)}$$

$49x^2 - \cancel{63x} + \cancel{63x} - 81$

$49x^2 - 81$ ✓

2. $y^2 - 1$ 　 $a = y$, 　 $b = 1$

$$\boxed{(y+1)(y-1)}$$

$y^2 \cancel{-y + y} - 1$

$y^2 - 1$ ✓

Solve by factoring

3. $x^2 - 11x + 24 = 0$ 　 $ac = 24$ 　　 $x = 8$

$x^2 - 8x - 3x + 24 = 0$ 　 $b = -11$

$x(x-8) - 3(x-8) = 0$ 　 $\dfrac{-|-}{8 \,|\, 3}$

$(x-8)(x-3) = 0$

① $x - 8 = 0$

　　$\boxed{x = 8}$

② $x - 3 = 0$

　　$\boxed{x = 3}$

$(8)^2 - 11(8) + 24 = 0$

$64 - 88 + 24 = 0$

$-24 + 24 = 0$

$0 = 0$ ✓

$x = 3$

$(3)^2 - 11(3) + 24 = 0$

$9 - 33 + 24 = 0$

$-24 + 24 = 0$

$0 = 0$ ✓