Intermediate Algebra
University of North Georgia
Fall 2015
Quiz #2

Name: Key **Date:** August 28, 2015

Solve

1. $\frac{3(y+5)}{2} - 2y = -4(y-1) + 3y$

$3y + 15 - 4y = -8y + 8 + 6y$

$-y + 15 = -2y + 8$

$\boxed{y = -7}$

2. $\frac{5x}{2} + 6 = \frac{3}{5} - \frac{x}{3}$

$30\left(\frac{5x}{2}\right) + 30 \cdot 6 = 30\left(\frac{3}{5}\right) + 30\left(-\frac{x}{3}\right)$

$75x + 180 = 18 + (-10x)$

$85x = -162$

$\boxed{x = -\frac{162}{85}}$

Simplify

3. $\frac{(3x^4)^3}{9x^5}$ $= \frac{3^3 \cdot x^{12}}{9x^5} = \frac{27x^{12-5}}{9}$

$= \boxed{3x^7}$

Factor

4. $y^3 - 27$ $a^3 \pm b^3 = (a \pm b)(a^2 \mp ab + b^2)$

$a = y$

$b = 3$

$\boxed{(y-3)(y^2+3y+9)}$