

Math 0097
University of North Georgia
Spring 2015
Quiz #7

Name: _____ Date: _____

Solve the equation. (Show ALL work NEATLY! Doing a check gets you an additional point!)

1. $8(p-2) = 5(p+4) - p$

$$8p - 16 = 5p + 20 - p$$

$$8p - 16 = 4p + 20$$

$$4p = 36$$

$$\boxed{p = 9}$$

$$8(9-2) = 5(9+4) - 9$$

$$8(7) = 5(13) - 9$$

$$56 = 65 - 9$$

$$56 = 56 \checkmark$$

2. Is $x = -\frac{3}{4}$ a solution to this equations: $\frac{2}{3}x - \frac{1}{4} = x$? (Show all work)

$$\frac{2}{3} \cdot \left(-\frac{3}{4}\right) - \frac{1}{4} = -\frac{3}{4}$$

$$-\frac{1}{2} - \frac{1}{4} = -\frac{3}{4}$$

$$\frac{-2 - 1}{4}$$

$$-\frac{3}{4} = -\frac{3}{4} \checkmark$$

Simplify

$$3. \frac{x^{-5}}{x^{-9}} = \frac{x^9}{x^5} = x^{9-5} = x^4$$

negative exp. Rule *Quotient Rule*

$$\begin{aligned} 4. -4^6 &= (-1) \cdot 4^6 \\ &= (-1) \cdot 4 \cdot 4 \cdot 4 \cdot 4 \cdot 4 \cdot 4 \\ &= \boxed{-4096} \end{aligned}$$

$$5. (4x^5y^3)^2(-2x^{-3}y^{-7})$$

$$(4^2) \cdot (x^5)^2 \cdot (y^3)^2 \cdot (-2x^{-3}y^{-7})$$

$$16 \cdot x^{10} \cdot y^6 \cdot -2 \cdot x^{-3} \cdot y^{-7}$$

$$16(-2) \cdot x^{10+(-3)} \cdot y^{6+(-7)}$$

$$-32 \cdot x^7 \cdot y^{-1}$$

$$\boxed{\frac{-32x^7}{y}}$$