

Foundations for College Algebra
Spring 2016
Quiz #7

Name: Key Date: October 26, 2016

SHOW ALL WORK (NEATLY) ON QUIZ!

1. Combine *like terms*.

$$8x^2 + 7 + 2x - 8x - 3x^3 - x^2 - 2$$
$$-3x^3 + 7x^2 - 6x + 5$$

2. Given $f(x) = 5x^3 + 4x^2 - 6$, evaluate $f(-2)$

$$\begin{aligned} f(-2) &= 5(-2)^3 + 4(-2)^2 - 6 \\ &= 5(-8) + 4(4) - 6 \\ &= -40 + 16 - 6 \\ &= -24 - 6 \end{aligned} \quad \Bigg| \quad = -30$$

3. Simplify the following expression: $(4a^3 + 6ac^2 + 5c^3) - (2a^3 + 8a^2c - 7ac^2)$

$$\begin{aligned} &4a^3 + 6ac^2 + 5c^3 - 2a^3 - 8a^2c + 7ac^2 \\ &2a^3 + 13ac^2 - 8a^2c + 5c^3 \\ &2a^3 - 8a^2c + 13ac^2 + 5c^3 \end{aligned}$$

4. Simplify: $x^3 * x^5 * x$

$$x^{3+5+1} = x^9$$

5. Simplify: $(-3x^8y^2)^4$

$$\begin{aligned} &(-3)^4 \cdot (x^8)^4 \cdot (y^2)^4 \\ &81 x^{32} y^8 \end{aligned}$$