

ALEKS® Exponents and Polynomials Quiz 1 #1

Beginning and Intermediate Algebra Combined / MATH 102 - Fall 2014 – 504 (Prof. Miller)

Student Name/ID:

Instructor Note:

Directions: Every problem is worth two points. One point is for trying the problem and showing your work and one point is for getting the correct answer. There are an additional five points for demonstrating the study strategy that is posted on the board and talked about at the beginning of class.

1. Simplify.

$$\left(\frac{-4a}{b^3}\right)^3$$

Write your answer without parentheses.

2. What are the leading coefficient and degree of the polynomial?

$$-5x + 20x^3 + 1 - 8x^4$$

Leading coefficient:

Degree:

3. Order the expressions by choosing $<$, $>$, or $=$

$$\left(\frac{1}{2}\right)^{-1} \square \left(\frac{1}{2}\right)^{-2}$$

$$2^{-2} \square \left(\frac{1}{2}\right)^{-2}$$

$$2^{-1} \square 2^{-2}$$

4. Simplify.

$$2vx^{-2} \cdot 7v^{-1} \cdot 4u^7u^{-1}x^{-4}$$

Use only positive exponents in your answer.

5. Evaluate the expressions.

$$\left(-\frac{2}{3}\right)^0 =$$

$$-(5)^0 =$$

6. Simplify.

$$\left(-x^3z^4\right)^2\left(2x^2y^3z\right)$$

7. Rewrite without parentheses and simplify.

$$(u - 4)^2$$

8. Simplify.

$$(-3w^4x^{-2})^2$$

Write your answer using only positive exponents.

9. Multiply.

$$(3v + 3y - 4)(4v - y)$$

Simplify your answer.

10. Calculate.

$$(3 \times 10^9)(1.3 \times 10^7)$$

Write your answer in scientific notation.

11. Multiply.

$$(5a - b)(5a + 8b)$$

Simplify your answer.

12. Simplify.

$$x \cdot x^4 \cdot x^3$$

13. Calculate.

$$\frac{7 \times 10^8}{2 \times 10^5}$$

Write your answer in scientific notation.

14. Simplify.

$$(w^4)^3$$

Write your answer without parentheses.

15. Simplify.

$$\frac{y^6}{y^3}$$

Exponents and Polynomials Quiz 1 #1 Answers for class Beginning and Intermediate Algebra Combined / MATH 102 - Fall 2014 – 504

1. $-\frac{64a^3}{b^9}$

2. Leading coefficient: -8
Degree: 4

3. $\left(\frac{1}{2}\right)^{-1} < \left(\frac{1}{2}\right)^{-2}$
 $2^{-2} < \left(\frac{1}{2}\right)^{-2}$
 $2^{-1} > 2^{-2}$

4. $\frac{56u^6}{x^6}$

5. $\left(-\frac{2}{3}\right)^0 = 1$
 $-(5)^0 = -1$

6. $2x^8y^3z^9$

7. $u^2 - 8u + 16$

8. $\frac{9w^8}{x^4}$

9. $12v^2 + 9vy - 3y^2 - 16v + 4y$

10. 3.9×10^{16}

11. $25a^2 + 35ab - 8b^2$

12. x^8

13. 3.5×10^3

14. w^{12}

15. y^3