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| --- | --- |
| |  | | --- | | **1.** **Simplify the following expression, and rewrite it in an equivalent form with positive exponents**  12x7y9 36 xy7   * 3 a) x6y2 | |

* X6y2  
  3
* X8 y16  
  3
* 12 x6y2

2. Raise the quantity in parentheses to the indicated exponent, and simplify the resulting expression.

(-3x6y)3

 27x18y3   
       -3x18y3   
       -27x18y3   
       -27x9y4

3. Short Answer: Simply the following expression, and rewrite it in an equivalent form with positive exponents.

(-6x-5)-2

4. Short Answer: Add the polynomials, and simply the resulting expression

**(-4x2 -9x -8) + (-10x2+5x-6)**

**5.** Multiply the expressions, and simplify.

(-10x-5y-2) · (-9x-4y)

 90x-1y-3   
       90(xy)-10   
       10x-9y-1   
       90x-9y-1

**6. Short Answer: Convert this number to scientific notation:**

496,700,000

**7. Use scientific notation to divide the following two numbers. Express the answer using scientific notation; retain at least three decimal places.**

8.16 · 105 / 1.03 · 102

8. Add the complex expressions, and simplify.

(1.9 – 7i) + (4.2 – 2.3i)

 -3.2i   
       6.1 – 9.3i   
       15.4   
       -3.2

**9.** Short Answer: Simplify the following expression; express in terms of i

√-36

10. Simplify the following expression.

√-24 √-81