

10/21/17

[_____ /15]

Show all your work for full credit. Unsupported answers = reduced points. Clearly identify your answers.

1. Simplify the following expressions. Write answers without negative exponents.

a) $a^3 c^{-6} \left(\frac{a^2 b^{-3}}{c^2} \right)^{-2}$

b) $\frac{(-2x^{1/3}y^{-3/2})^{-2}}{(x^{-4}y^{1/2})^{2/3}}$

[_____ /2]

[_____ /2]

2. Simplify the expression. Assume the letters represent any real number.

$$\sqrt[4]{81x^4y^{-8}z^{12}}$$

[_____ /2]

3. Given $M = 3.056 \times 10^{-12}$, $H = 2.45 \times 10^{15}$, and $K = 6.022 \times 10^{23}$, evaluate $\frac{K^2}{MH}$.

[_____ /2]

4. Completely factor the expression:
 $4(3x+4)^3(3)(x-2)^6 + (3x+4)^4(6)(x-2)^5$

[/2]

5. Simplify the expression by factoring. Write answer without negative exponents.

$$\frac{8x(x+1)^{2/3} - \frac{2}{3}(x+1)^{-1/3} 4x^2}{((x+1)^{2/3})^2}$$

[/3]

6. Simplify the expression:

$$\frac{x}{x^2-x-6} - \frac{1}{x+2} - \frac{2}{x-3}$$

[/2]
