Unit 1 Lesson 6 – Simplifying Exponential Expressions

Rewrite each expression using only positive exponents.

1.) $3^{4}∙3^{-7}∙4^{-1}∙4^{3}$

2.) $9^{4}∙9^{-1}∙2^{-4}∙2^{4}$

3.) $2^{-2}∙8^{1}∙2^{2}∙8^{-3}$

4.) $\left(-5\right)^{-5}∙\left(-2\right)^{-3}∙\left(-5\right)^{8}∙\left(-2\right)^{4}$

5.) $\left(\frac{3^{9}}{3^{5}}\right)^{2}∙\left(\frac{3^{2}}{3^{4}}\right)^{3}$

6.) $\frac{\left(5^{2}\right)^{2}}{\left(4^{3}∙5^{3}\right)^{2}}$

7.) $\left(4^{-1}∙5\right)^{4}$

8.) $\left(\frac{5^{2}}{4^{2}}\right)^{2}$

9.) (xy3)(xy)2

10.) (3xy4)2(4x2)2

11.) $\frac{36x^{4}y^{2}z}{-6x^{4}}$

12.) $\frac{8m^{4}n^{3}p^{3}}{10m^{2}n^{2}p^{4}}$

13.) $\frac{a^{7}b^{2}c^{-3}}{a^{-4}b^{5}c^{2}}$

14.) $\frac{2x^{4}y^{4}z^{-3}}{3x^{2}y^{-3}z^{4}}$

15.) $\left(\frac{6g}{2g^{6}}\right)^{2}$

16.) $\left(\frac{4k^{4}}{5k^{5}g^{6}}\right)^{2}$