

16.3 – Negative Exponents

$$a^{-n} = \frac{1}{a^n}$$

$$\frac{1}{a^{-n}} = a^n$$

Note: A negative exponent does not indicate a negative number.

Evaluate the following.

1. $5^{-4} \cdot 5^3 =$

2. $(2^{-3})^2 =$

3. $\frac{8^3 \cdot 8^5}{8^9} =$

4. $\left(\frac{5}{6}\right)^{-3} =$

Simplify the following.

5. $x^4 \cdot x^8 =$

6. $\frac{1}{x^{-5}} =$

7. $\left(\frac{x^2}{y}\right)^{-3} =$

8. $\left(\frac{x^5 y^3}{x^3 y^5}\right)^{-4} =$

9. $\frac{5x^4 y^3}{8x^5} \cdot \frac{3x^3 y^5}{6y^4} =$

10. $\frac{x^{-2} y^3 z^{-1}}{x^{-3} y^2} \cdot \frac{x^2 y^{-1} z}{z^3} =$