

# Exponent Rules (I)

Simplify each expression.

1.  $\frac{6^7}{6^7}$

2.  $\frac{2^9}{2^3}$

3.  $\frac{(-9)^{-2}}{(-9)^0}$

4.  $(-2)^8 \cdot (-2)^8$

5.  $(9^{-2})^1$

6.  $(-2)^4 \cdot 9^4$

7.  $(9^{-1})^6$

8.  $(-9)^{-9} \cdot (-9)^7$

9.  $\frac{3^{-9}}{3^2}$

10.  $(-6)^3 \cdot (-6)^5$

# Exponent Rules (I) Answers

Simplify each expression.

$$\begin{aligned} 1. \quad & \frac{6^7}{6^7} \\ & = 6^0 = 1 \end{aligned}$$

$$\begin{aligned} 2. \quad & \frac{2^9}{2^3} \\ & = 2^6 \end{aligned}$$

$$\begin{aligned} 3. \quad & \frac{(-9)^{-2}}{(-9)^0} \\ & = (-9)^{-2} = \frac{1}{(-9)^2} \end{aligned}$$

$$\begin{aligned} 4. \quad & (-2)^8 \cdot (-2)^8 \\ & = (-2)^{16} \end{aligned}$$

$$\begin{aligned} 5. \quad & (9^{-2})^1 \\ & = 9^{-2} = \frac{1}{9^2} \end{aligned}$$

$$\begin{aligned} 6. \quad & (-2)^4 \cdot 9^4 \\ & = (-18)^4 \end{aligned}$$

$$\begin{aligned} 7. \quad & (9^{-1})^6 \\ & = 9^{-6} = \frac{1}{9^6} \end{aligned}$$

$$\begin{aligned} 8. \quad & (-9)^{-9} \cdot (-9)^7 \\ & = (-9)^{-2} = \frac{1}{(-9)^2} \end{aligned}$$

$$\begin{aligned} 9. \quad & \frac{3^{-9}}{3^2} \\ & = 3^{-11} = \frac{1}{3^{11}} \end{aligned}$$

$$\begin{aligned} 10. \quad & (-6)^3 \cdot (-6)^5 \\ & = (-6)^8 \end{aligned}$$