

Exponent Rules (F)

Simplify each expression.

1. $(-3)^6 \cdot (-6)^6$

2. $\frac{(-6)^{-2}}{(-6)^{-6}}$

3. $\frac{(-7)^{-8}}{(-7)^{-8}}$

4. $(-4)^{-6} \cdot (-4)^{-9}$

5. $\frac{5^{-1}}{5^2}$

6. $(-6)^1 \cdot (-6)^{-3}$

7. $(9^2)^6$

8. $(5^8)^{-7}$

9. $\frac{7^{-3}}{7^8}$

10. $3^2 \cdot (-4)^2$

Exponent Rules (F) Answers

Simplify each expression.

$$\begin{aligned} 1. \quad & (-3)^6 \cdot (-6)^6 \\ & = 18^6 \end{aligned}$$

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

$$\begin{aligned} 3. \quad & \frac{(-7)^{-8}}{(-7)^{-8}} \\ & = (-7)^0 = 1 \end{aligned}$$

$$\begin{aligned} 4. \quad & (-4)^{-6} \cdot (-4)^{-9} \\ & = (-4)^{-15} = \frac{1}{(-4)^{15}} \end{aligned}$$

$$\begin{aligned} 5. \quad & \frac{5^{-1}}{5^2} \\ & = 5^{-3} = \frac{1}{5^3} \end{aligned}$$

$$\begin{aligned} 6. \quad & (-6)^1 \cdot (-6)^{-3} \\ & = (-6)^{-2} = \frac{1}{(-6)^2} \end{aligned}$$

$$\begin{aligned} 7. \quad & (9^2)^6 \\ & = 9^{12} \end{aligned}$$

$$\begin{aligned} 8. \quad & (5^8)^{-7} \\ & = 5^{-56} = \frac{1}{5^{56}} \end{aligned}$$

$$\begin{aligned} 9. \quad & \frac{7^{-3}}{7^8} \\ & = 7^{-11} = \frac{1}{7^{11}} \end{aligned}$$

$$\begin{aligned} 10. \quad & 3^2 \cdot (-4)^2 \\ & = (-12)^2 \end{aligned}$$