

Exponent Rules (G)

Simplify each expression.

1. $(-4)^4 \cdot (-4)^{-7}$

2. $9^{-3} \cdot 5^{-3}$

3. $\frac{(-3)^8}{(-3)^6}$

4. $(-8)^7 \cdot (-8)^{-3}$

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

6. $\frac{(-9)^1}{(-9)^6}$

7. $\frac{5^{-2}}{5^0}$

8. $\frac{(-6)^{-2}}{(-6)^{-8}}$

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

10. $((-6)^5)^9$

Exponent Rules (G) Answers

Simplify each expression.

1. $(-4)^4 \cdot (-4)^{-7}$

$$= (-4)^{-3} = \frac{1}{(-4)^3}$$

2. $9^{-3} \cdot 5^{-3}$

$$= 45^{-3} = \frac{1}{45^3}$$

3. $\frac{(-3)^8}{(-3)^6}$

$$= (-3)^2$$

4. $(-8)^7 \cdot (-8)^{-3}$

$$= (-8)^4$$

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

$$= (-9)^6$$

6. $\frac{(-9)^1}{(-9)^6}$

$$= (-9)^{-5} = \frac{1}{(-9)^5}$$

7. $\frac{5^{-2}}{5^0}$

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

8. $\frac{(-6)^{-2}}{(-6)^{-8}}$

$$= (-6)^6$$

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

$$= 6^{42}$$

10. $((-6)^5)^9$

$$= (-6)^{45}$$