

Exponent Rules (B)

Simplify each expression.

1. $4^9 \cdot 4^{-2}$

2. $\frac{6^{-6}}{6^5}$

3. $\frac{4^5}{4^9}$

4. $(9^2)^{-5}$

5. $\frac{8^8}{8^8}$

6. $\frac{(-8)^{-1}}{(-8)^{-5}}$

7. $(-5)^2 \cdot 7^2$

8. $2^{-2} \cdot 2^{-1}$

9. $((-5)^{-2})^{-6}$

10. $(-3)^8 \cdot 3^8$

Exponent Rules (B) Answers

Simplify each expression.

1. $4^9 \cdot 4^{-2}$

$$= 4^7$$

2. $\frac{6^{-6}}{6^5}$

$$= 6^{-11} = \frac{1}{6^{11}}$$

3. $\frac{4^5}{4^9}$

$$= 4^{-4} = \frac{1}{4^4}$$

4. $(9^2)^{-5}$

$$= 9^{-10} = \frac{1}{9^{10}}$$

5. $\frac{8^8}{8^8}$

$$= 8^0 = 1$$

6. $\frac{(-8)^{-1}}{(-8)^{-5}}$

$$= (-8)^4$$

7. $(-5)^2 \cdot 7^2$

$$= (-35)^2$$

8. $2^{-2} \cdot 2^{-1}$

$$= 2^{-3} = \frac{1}{2^3}$$

9. $((-5)^{-2})^{-6}$

$$= (-5)^{12}$$

10. $(-3)^8 \cdot 3^8$

$$= (-9)^8$$