

Quotient Exponent Rule (C)

Name: _____

Date: _____

Score: _____

Simplify each expression.

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

2. $\frac{5^{-9}}{5^{-9}}$

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

4. $\frac{-6^{-6}}{-6^{-3}}$

5. $\frac{-3^{-7}}{-3^5}$

6. $\frac{-2^2}{-2^4}$

7. $\frac{-3^{-2}}{-3^8}$

8. $\frac{5^5}{5^7}$

9. $\frac{9^{-5}}{9^{-5}}$

10. $\frac{7^{-6}}{7^3}$

Quotient Exponent Rule (C) Answers

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Simplify each expression.

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

$$9^{2-9} = 9^{-7} = \frac{1}{9^7}$$

2. $\frac{5^{-9}}{5^{-9}}$

$$5^{-9-(-9)} = 5^0 = 1$$

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

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

4. $\frac{-6^{-6}}{-6^{-3}}$

$$-6^{-6-(-3)} = -6^{-3} = -\frac{1}{6^3}$$

5. $\frac{-3^{-7}}{-3^5}$

$$-3^{-7-5} = -3^{-12} = \frac{1}{3^{12}}$$

6. $\frac{-2^2}{-2^4}$

$$-2^{2-4} = -2^{-2} = \frac{1}{2^2}$$

7. $\frac{-3^{-2}}{-3^8}$

$$-3^{-2-8} = -3^{-10} = \frac{1}{3^{10}}$$

8. $\frac{5^5}{5^7}$

$$5^{5-7} = 5^{-2} = \frac{1}{5^2}$$

9. $\frac{9^{-5}}{9^{-5}}$

$$9^{-5-(-5)} = 9^0 = 1$$

10. $\frac{7^{-6}}{7^3}$

$$7^{-6-3} = 7^{-9} = \frac{1}{7^9}$$