

Indices and Laws of Indices

Second Law



When expressions with the same base are divided, the indices are subtracted.

$$\frac{a^m}{a^n} = a^{m-n} \quad \frac{2^5}{2^2} = 2^3$$

Apply second law of indices to each of the following. Provide each answer as a single index:

$$\frac{3^3}{3^2} = \quad \frac{5^5}{5^2} = \quad \frac{5^2}{5^5} = \quad \frac{2^5}{2^2} = \quad \frac{7^5}{7^9} =$$

$$\frac{4^5}{4} = \quad \frac{3^6}{3^2} = \quad \frac{6^3}{6^2} = \quad \frac{7^7}{7^3} = \quad \frac{4^5}{4^5} =$$

$$\frac{2^5}{2^1} = \quad \frac{4^9}{4^3} = \quad \frac{5^7}{5^5} = \quad \frac{7^7}{7^3} = \quad \frac{12^5}{12^2} =$$

$$\frac{8^4}{8^2} = \quad \frac{6^7}{6^3} = \quad \frac{5^2}{5^5} = \quad \frac{2^5}{2^2} = \quad \frac{7^5}{7^9} =$$

$$7^7 \div 7^7 = \quad 3^9 \div 3^3 = \quad 6^7 \div 6^3 = \quad 2^3 \div 2^5 =$$

$$1^3 \div 1^7 = \quad 8^2 \div 8^4 = \quad 7^5 \div 7^9 = \quad 4^3 \div 4^9 =$$

$$6^3 \div 6^2 = \quad 9^2 \div 9^6 = \quad 4 \div 4^7 = \quad 2^3 \div 2^5 =$$

$$5^5 \div 5^5 = \quad 5^2 \div 5^5 = \quad 2^3 \div 2^3 = \quad 5^2 \div 5^{14} =$$

$$9^2 \div 9^2 = \quad 8^2 \div 8^{10} = \quad 9^8 \div 9^9 = \quad 4^3 \div 4^{12} =$$