Dividing Exponentials

Quotient Rule: $A^m \div A^n = A^{m-n}$

When you divide exponentials with the SAME base, you subtract the exponents

Example: **Simplify $\frac{6^{10}}{6^2}$ in exponential notation.**

$\frac{6^{10}}{6^2} = 6^{10-2}$,

$= 6^8$.

Simplify the following expressions in exponential notation.

1. $\frac{6^7}{6^4}$

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

3. $4^8 \div 4^5$

4. $\frac{12^{15}}{12^3}$

5. $2^8 \div 2^3$

6. $\frac{3^{97}}{3^{11}}$

7. $5^7 \div 5^3$

8. $11^{14} \div 11^4$

9. $\frac{10^{10}}{10^5}$

10. $8^{33} \div 8^5$

11. $\frac{27}{3^2}$

12. $10^8 \div 10^2$

13. $\frac{5^4 \cdot 3^2 \cdot 5^7 \cdot 3^4}{5^8 \cdot 3^5}$