NAME _____

Multiplying and Dividing Powers

Compute what happens when we multiply the following...

Problem	Multiplication	Product	Power
$10^4 \cdot 10^3$			
$10^1 \cdot 10^2$			
$10^2 \cdot 10^5$			
$10^4 \cdot 10^2$			
$10^{25} \cdot 10^{100}$			

1. What patterns or short cuts do you notice about this process?

2. What would $10^m \cdot 10^n$ equal?

This property works for powers of any number, not just powers of ten.

General Rule:

Compute what happens when we divide the following...

Problem	Fraction w/ Powers	Fraction w/out Powers	Reduced	Power	Quotient
$10^4 \div 10^2$					
$10^3 \div 10^2$					
$10^5 \div 10^3$					
$10^2 \div 10^1$					
$10^{32} \div 10^{20}$					

1. What patterns or short cuts do you notice about this process?

2. What would $10^m \div 10^n$ equal?

This property works for powers of any number, not just powers of ten.

General Rule: