Math 9 *Name:*_____

2.2 – Powers of 10 & The Zero Exponent *Date:* _____

The Zero Exponent

Power	Value
2^5	
2^4	
2^3	
2^2	
2^1	
2^0	
2^{-1}	
2^{-2}	

Power	Value
5^5	
5^4	
5^3	
5^2	
5^1	
5^0	
5^{-1}	
5^{-2}	

Power	Value
10^5	
10^4	
10^3	
10^2	
10^1	
10^0	
10^{-1}	
10^{-2}	

Power	Value
$(-2)^5$	
$(-2)^4$	
$(-2)^3$	
$(-2)^2$	
$(-2)^1$	
$(-2)^0$	
$(-2)^{-1}$	
$(-2)^{-2}$	

Based on the patterns you observed above, **any integer to the power of zero has a value of _____.**

Evaluate: a) $15^0 =$ b) $(-250)^0 =$ c) $(\textit{the neighbour's cat})^0 =$

d) $-4^0 =$ e) $-100^0 =$

Powers of 10 & Naming Place Values

Power	Standard Form	In Words
10^9		
10^8		
10^7		
10^6		
10^5		
10^4		
10^3		
10^2		
10^1		
10^0		

Write the following numbers using Powers of 10 and using words.

a. 600

b. 251493

c. 102304

d. 98036

Write the following in Standard Form.

a. $\left(6\times10^{3}\right)+\left(4\times10^{1}\right)+\left(7\times10^{0}\right)$

b. $\left(7\times10^{5}\right)+\left(3\times10^{4}\right)+\left(8\times10^{2}\right)+\left(5\times10^{1}\right)$

c. $\left(3\times10^{6}\right)+\left(1\times10^{5}\right)+\left(5\times10^{3}\right)+\left(8\times10^{2}\right)+\left(3\times10^{1}\right)+\left(7\times10^{0}\right)$