

# Math Review

## Exponent

$X, X^2, = X * X, X^3 = X * X * X$  ````cpp // O(N) Time Complexity  
for(int i=0; i< N, i++){ A[i] = 0; } ````

$X^A = B$  if and only  $\log_x B = A$

## Theorem 1.1

$\log_a B = (\log_c B) / (\log_c A)$   $\log(x)$  refers to base 2 in our case.  
*For Binary*