

# Math Review

## Exponent

$$X, X^2, = X * X, X^3 = X * X * X$$

```
// O(N) Time Complexity
for(int i=0; i< N, i++){
    A[i] = 0;
}
```

$$X^A = B \text{ if and only } \log_x B = A$$

### Theorem 1.1

$$\log_a B = (\log_c B) / (\log_c A)$$

$\log(x)$  refers to base 2 in our case. *For Binary*