

## 2.2 Powers of Tens & the Zero Exponent

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### Zero Exponent LAW

A power with any base (other than zero) that has a 0 exponent = 1

Ex. #1

$$(a) \quad 6^0 \\ = 1$$

$$(b) \quad (-5)^0 \\ = 1$$

$$(c) \quad -2^0 = -(2)^0 \\ = -1$$

base -5

base: 2

### Writing Numbers Using Powers of 10

Write 3452 using powers of 10

↑ ↑ ↑ ↑  
thousands    hundreds    tens    ones  
decimal  
place

$$\begin{aligned} 3452 &= 3000 + 400 + 50 + 2 \\ &= (3 \times 1000) + (4 \times 100) + (5 \times 10) + (2 \times 1) \\ &= (3 \times 10^3) + (4 \times 10^2) + (5 \times 10^1) + (2 \times 10^0) \end{aligned}$$

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