

## Notes 9.3 Zero and Negative Exponents

$$10^0 = 1$$

$$2^0 = 1$$

$$3^0 = 1$$

$$(-5)^0 = 1$$

$$0^0 = \text{error} \\ \text{undefined}$$

$$x^0 = 1$$

except  
when  $x=0$

$$10^{-3} = \frac{1}{1000} = \frac{1}{10^3}$$

$$2^{-4} = \frac{1}{16} = \frac{1}{2^4}$$

$$5^{-2} = \frac{1}{25} = \frac{1}{5^2}$$

$$4^{-1} = \frac{1}{4} = \frac{1}{4^1}$$

$$c^{-4} = \frac{1}{c^4}$$

$$b^2 c^{-3} = \frac{b^2}{c^3}$$

$$x^{-a} = \frac{1}{x^a} \quad x \neq 0$$

negative exponents  
become positive  
in the  
denominator