



Zero Exponents

Video Notes

[Video Link](#)

Zero Exponents

Background Information:

- Dividing Monomials

Divide:

"cancel" to get 1.

$$\frac{x^5}{x^2} = x^3$$

$5 - 2 = 3$

$$\frac{x^3}{x^2} = x$$

$3 - 2 = 1$

coefficients!

$$\frac{x^4}{x^2} = x^2$$

$4 - 2 = 2$

$$\frac{x^2}{x^2} = 1$$

$2 - 2 = 0$

$x^0 = 1$

~~WRONG!~~

Divide:

$$\frac{4a^6}{1a^4} = 4a^2$$

$6 - 4 = 2$

$$\frac{4a^6}{1a^5} = 4a$$

OR

$6 - 5 = 1$

$$\frac{4a^6}{1a^6} = 4$$

$6 - 6 = 0$

$4a^0 = 4$

$4 \cdot ? = 4$

$4 \cdot 1 = 4$

$a^0 = 1!$

Conclusion:

Anything to the power
of zero is always equal to 1

EX: $y^0 = 1$ $(7xy^3)^0 = 1$ $3x(y^0) = 3x \cdot 1 = 3x$

\downarrow
 $3x$