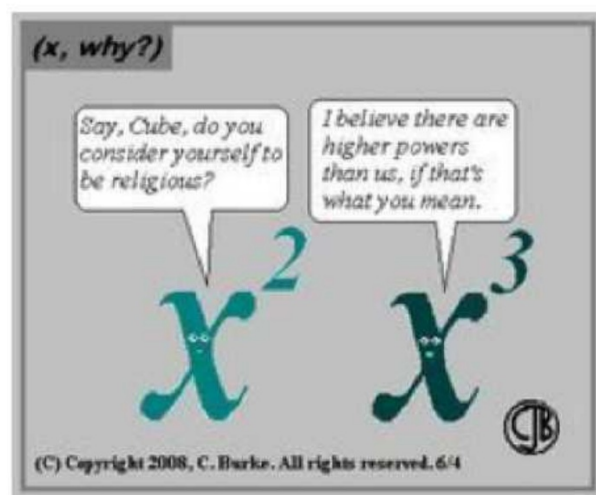


2.1 Properties of Exponents

2.2 Evaluating Polynomial Functions

2.3 Add, Subtract and Multiply Polynomials



REVIEW: Exponent Properties

Property Name	Definition
Product of Powers	$a^m \cdot a^n = a^{m+n}$
Power of a Power	$(a^m)^n = a^{mn}$
Power of a Product	$(ab)^m = a^m b^m$
Negative Exponent	$a^{-m} = \frac{1}{a^m}$
Zero Exponent	$a^0 = 1$
Quotient of Powers	$\frac{a^m}{a^n} = a^{m-n}$
Power of a Quotient	$\left(\frac{a}{b}\right)^m = \frac{a^m}{b^m}$

ex: Simplify the expression.

a) $(x^4)^3 \cdot 2x^4$

$$x^{12} \cdot 2x^4$$

$$2x^{16}$$

ex: Simplify the expression.

b) $2x^5 \cdot (5x^4)^{-3}$

$$2x^5 \cdot \frac{1}{(5x^4)^3}$$

$$2x^5 \cdot \frac{1}{125x^{12}}$$

$$\frac{2x^5}{125x^{12}}$$

$$\frac{2}{125x^7}$$

~~xxxxxx~~
~~xxxxxx~~

ex: Simplify the expression.

$$c) \frac{3x^2y^2 \cancel{x}}{2\cancel{x}^1(4x^2y)^3}$$

$$\frac{3x^3y^2}{2 \cdot 64x^6y^3}$$

$$\frac{3}{128x^3y}$$

$$\frac{3}{128} x^{-3} y^{-1}$$

ex: Simplify the expression.

d) $25(x-5)^{-2}$

$$(x-5)^2 \neq x^2 + 25$$

$$\frac{25}{(x-5)^2} = \text{or} = \frac{25}{x^2 - 10x + 25}$$

$$\frac{x}{x \cdot 4}$$

$$\frac{x+4}{(x)}$$

$$\frac{x}{x} + \frac{4}{x}$$

$$\frac{x}{(x+4)}$$

Solving quadratics with any method

Word problems

imaginary numbers/complex numbers

Simplifying radicals

Discriminant

finding zeros