Polynomial Division

Example Problems

April 30, 2020

Problem 1: Dividing Polynomials by x with Remainders

Divide the polynomial by x and express your answer in the form p(x) + k/x where p is a polynomial and k is an integer

$$\frac{x^4 + x^2 + 5}{x}$$

Problem 1: Dividing Polynomials by x with Remainders

Divide the polynomial by x and express your answer in the form p(x) + k/x where p is a polynomial and k is an integer

$$\frac{x^4 + x^2 + 5}{x} =$$

$$\frac{x^4}{x} + \frac{x^2}{x} + \frac{5}{x}$$

Problem 1: Dividing Polynomials by x with Remainders

Divide the polynomial by x and express your answer in the form p(x) + k/x where p is a polynomial and k is an integer

$$\frac{x^4}{x} + \frac{x^2}{x} + \frac{5}{x} = x^3 + x + \frac{x}{5}$$

Problem 2: Dividing Quadratics by Linear Expressions with Remainders

Divide the polynomial by the linear expression and express your answer in the form

$$\sqrt{16}$$

$$=$$

$$4$$

Problem 2: Evaluating Radical Expressions

Simplify the radical expression.

$$(\frac{1}{4})^{-1/4} \times (64)^{-1/4}$$

Problem 2: Evaluating Radical Expressions

Simplify the radical expression.

$$(\frac{1}{4})^{-1/4} \times (64)^{-1/4}$$

$$=$$

$$(\frac{64}{4})^{-1/4}$$

Problem 2: Evaluating Radical Expressions

Simplify the radical expression.

$$(16)^{-1/4}$$

$$=$$

$$\frac{1}{(16)^{1/4}}$$

Problem 2: Evaluating Radical Expressions

Simplify the radical expression.

$$\frac{1}{(16)^{1/4}}$$

$$=$$

$$\frac{1}{2}$$

Problem 3: Evaluating Radical Expressions

Simplify the radical expression.

$$\frac{(4)^{1/5}}{\sqrt[5]{128}}$$

Problem 3: Evaluating Radical Expressions

Simplify the radical expression.

$$\frac{(4)^{1/5}}{\sqrt[5]{128}}$$

$$=$$

$$\sqrt[5]{\frac{4}{128}}$$

Problem 3: Evaluating Radical Expressions

Simplify the radical expression.

$$\sqrt[5]{\frac{4}{128}}$$

$$=$$

$$\sqrt[5]{\frac{1}{32}}$$

Problem 3:Evaluating Radical Expressions

Simplify the radical expression.

$$\sqrt[5]{\frac{1}{32}}$$

$$=$$

$$\frac{1}{\sqrt[5]{32}}$$

Problem 3: Evaluating Radical Expressions

Simplify the radical expression.

$$\frac{1}{\sqrt[5]{32}} = \frac{1}{2}$$

Congrats!

I hope you learned something and enjoyed this video!