

Algebra II Trigonometry Honors Big Idea Chapter 4 Polynomial Lecture Part 1

Lesson 104 | Algebra II | Polynomial zeros and division • Factoring polynomials

<https://www.youtube.com/watch?v=9NcyPo5DIjY>

Original practice aligned to the saved video title.

Name: _____ Date: _____ Show your reasoning.

01

Find every real and complex zero: $x^2 + 5x - 50$.

02

Factor completely over the real numbers: $x^3 - 14x^2 + 144x - 2016$.

03

Find every real and complex zero: $x^4 - 104x^2 + 400$.

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04

Factor completely over the real numbers: $x^2 + x - 90$.

05

Find every real and complex zero: $x^3 - 5x^2 + 144x - 720$.

06

Factor completely over the real numbers: $x^4 - 148x^2 + 576$.

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01 Find every real and complex zero: $x^2 + 5x - 50$.

Factorization: $(x - 5)(x + 10)$. Zeros: -10, 5.

02 Factor completely over the real numbers: $x^3 - 14x^2 + 144x - 2016$.

Factorization: $(x - 14)(x^2 + 144)$. Expand the factors to check the original expression. Quadratic factors with negative discriminant remain irreducible over the reals.

03 Find every real and complex zero: $x^4 - 104x^2 + 400$.

Factorization: $(x - 10)(x - 2)(x + 2)(x + 10)$. Zeros: -10, -2, 2, 10.

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04

Factor completely over the real numbers: $x^2 + x - 90$.

Factorization: $(x - 9)(x + 10)$. Expand the factors to check the original expression. Quadratic factors with negative discriminant remain irreducible over the reals.

05

Find every real and complex zero: $x^3 - 5x^2 + 144x - 720$.

Factorization: $(x - 5)(x^2 + 144)$. Zeros: 5.

06

Factor completely over the real numbers: $x^4 - 148x^2 + 576$.

Factorization: $(x - 12)(x - 2)(x + 2)(x + 12)$. Expand the factors to check the original expression. Quadratic factors with negative discriminant remain irreducible over the reals.