

Finding Complex Zero with Factoring, p/q, Synthetic Division and Quadratic Formula

Lesson 094 | Algebra II | Polynomial zeros and division • Factoring polynomials

<https://www.youtube.com/watch?v=vzXq4WoSwnE>

Original practice aligned to the saved video title.

Name: _____ Date: _____ Show your reasoning.

01 Find every real and complex zero: $x^2 - x - 182$.

02 Factor completely over the real numbers: $x^3 - 7x^2 + 9x - 63$.

03 Find every real and complex zero: $x^4 - 145x^2 + 5184$.

Finding Complex Zero with Factoring, p/q, Synthetic Division and Quadratic Formula

Lesson 094 | Algebra II | Polynomial zeros and division • Factoring polynomials

<https://www.youtube.com/watch?v=vzXq4WoSwnE>

Original practice aligned to the saved video title.

Name: _____ Date: _____ Show your reasoning.

04

Factor completely over the real numbers: $x^2 + 2x - 99$.

05

Find every real and complex zero: $x^3 - 4x^2 + 36x - 144$.

06

Factor completely over the real numbers: $x^4 - 180x^2 + 5184$.

Finding Complex Zero with Factoring, p/q, Synthetic Division and Quadratic Formula

Lesson 094 | Algebra II | Polynomial zeros and division • Factoring polynomials

<https://www.youtube.com/watch?v=vzXq4WoSwnE>

Original practice aligned to the saved video title.

01 Find every real and complex zero: $x^2 - x - 182$.

Factorization: $(x - 14) \cdot (x + 13)$. Zeros: -13, 14.

02 Factor completely over the real numbers: $x^3 - 7x^2 + 9x - 63$.

Factorization: $(x - 7) \cdot (x^2 + 9)$. 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: $x^4 - 145x^2 + 5184$.

Factorization: $(x - 9) \cdot (x - 8) \cdot (x + 8) \cdot (x + 9)$. Zeros: -9, -8, 8, 9.

Finding Complex Zero with Factoring, p/q, Synthetic Division and Quadratic Formula

Lesson 094 | Algebra II | Polynomial zeros and division • Factoring polynomials

<https://www.youtube.com/watch?v=vzXq4WoSwnE>

Original practice aligned to the saved video title.

04

Factor completely over the real numbers: $x^2 + 2x - 99$.

Factorization: $(x - 9)(x + 11)$. 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: $x^3 - 4x^2 + 36x - 144$.

Factorization: $(x - 4)(x^2 + 36)$. Zeros: 4.

06

Factor completely over the real numbers: $x^4 - 180x^2 + 5184$.

Factorization: $(x - 12)(x - 6)(x + 6)(x + 12)$. Expand the factors to check the original expression. Quadratic factors with negative discriminant remain irreducible over the reals.