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ALGEBRA 2 · 5 MINUTES · START RIGHT AWAY

Lesson 3-6c

Find All Complex Roots

Name _____ Date _____ Per _____

1 FLUENCY

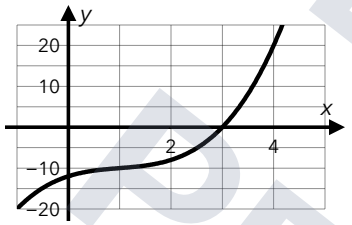
Factor by grouping and find all complex roots of $x^3 - x^2 + 4x - 4 = 0$.

$(x - 1)($ ☐ $) = 0$ roots: ☐, ☐, ☐

WORK

2 VISUAL MODEL

The graph of $f(x) = x^3 - 3x^2 + 4x - 12$ is shown. Use the real root to find all roots.



real root: ☐

other roots: ☐, ☐

3 APPLICATION

A student's graphing app shows only 2 solutions of $x^4 + 5x^2 - 36 = 0$. How many solutions does the equation have in all? Find every solution.

total: ☐ solutions: _____

WORK

4 REASONING

f is a real-coefficient polynomial of degree 4. Select TWO true statements.

- **A** f has 4 roots, counting multiplicity.
- **B** f could have exactly 3 imaginary roots.
- **C** f could have no real roots.
- **D** f must have at least one real root.

*We don't divide our effort, we **multiply** it!*

✎ Show your work ✓ Check your work ★ Try your best

Preview - the full worksheet and its answer key are at primeworksheet.com