

Name _____

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Rally Coach: Take turns solving problems.

Simplify.

1) $(-2 + 7i)^2$

2) $(3 - 6i)^2$

3) $\frac{-3 + 6i}{6 + 3i}$

4) $\frac{-4 - i}{2 + 2i}$

Solve each equation with the quadratic formula.

5) $x^2 + 9 = 2x$

6) $11n^2 = -2 - 4n$

Write a polynomial function of least degree with integral coefficients that has the given zeros.

7) $-2i, 2i, 1 - i$

8) $3 + i, 3 - i, -3i$

State the number of complex zeros and the possible rational zeros for each function. Then find all zeros.

9) $f(x) = x^3 - 3x^2 + x - 3$

10) $f(x) = x^3 + 5x^2 + x + 5$