

Instructions: Show all work. Use exact answers unless otherwise asked to round.

1. Simplify, and write in standard form.

a. $(-4 - 8i)(3 + i)$

b. $\frac{3-4i}{4+3i}$

2. One zero of the polynomial equation $x^4 - 2x^2 - 16x - 15 = 0$ is $x = 3$. Use polynomial division to reduce the polynomial. Then find the rest of the real and complex zeros of the function. You may use the Rational Zero's Theorem and/or The Remainder Theorem. Write the final factored form of the polynomial with linear factors or quadratics with real coefficients (when the roots are complex). Graph the function.

