

DATE: _____

2.5 Complex Zeros and Fundamental Theorem of Algebra (More Practice)

(Target 2C/2D)

1. Write a polynomial in standard form with the following zeroes:

a) $3 + i, -2$

b) $3i$ (multiplicity 1), 1 (multiplicity 2), 0 (multiplicity 3)

2. Identify the zeroes and x -intercepts of the polynomial:

a) $f(x) = (x - 3)^2(x - 1 - i)(x - 1 + i)$

b) $g(x) = x(x - 4i)(x + 4i)(x + 1)^2$

Draw a picture of (or explain why you are not able to draw) each of the following:

a) a quadratic function having only one real number root

b) a quadratic function having only one complex root

c) a quadratic function with two real roots

d) a quadratic function with two complex roots.