

55 Degree: 4; leading coefficient: 10; zeros: 1, -1 , $3i$, and $-3i$

(a) $f(x) = 10(x - 1)(x + 1)(x - 3i)(x + 3i)$

(b) $10(x - 1)(x + 1)(x - 3i)(x + 3i) = 10(x^2 - 1)(x^2 + 9) = 10(x^4 + 8x^2 - 9)$
 $= 10x^4 + 80x^2 - 90.$ Thus, $f(x) = 10x^4 + 80x^2 - 90.$