

Chapter 6

1. a) $x = 0, \pm 3, \pm 2i$ b) $x = \pm i\sqrt{6}, \frac{2}{3}$ c) $x = 0, \pm 2, \pm 2i$
2. a) Degree = 5, LC = 1 b) Degree = 8, LC = -2000
3. a) ($\nwarrow, \nearrow$) b) ($\swarrow, \searrow$) c) ($\nwarrow, \searrow$) d) ($\swarrow, \nearrow$)
4. $y = -x^2(x+6)^2(x+2)(x-3)^3(x-7)$
5. a) $3x^3 - 2x^2 + 3x + 10$ $R = 11$ b) $2x^2 + 7x - 1$
6. Other roots are $\pm i\sqrt{6}$
7. zeros: $x = -5.51, 8.23$ Abs Max: None Rel Max: $(0.04, -1.60)$
Abs Min: $(5.78, -9.76)$ Rel Min: $(-3.56, -3.94)$
8. Yes $x - 2$ is a factor. The remainder is zero when you perform the division.