Answers to Section 2.1-2.3

1. 
   a. \(1.04 \cdot 10^{10}\)
   b. \(\approx 7.5 \cdot 10^3\) or about 7500 days.

2. \(ex. f(x) = -x^5\)

3. 
   a. Quartic
   b. As \(x \to \infty\), \(f(x) \to \infty\)
      As \(x \to -\infty\), \(f(x) \to \infty\)
   c. \(2012 = 355513\) and \(2002 = 59547\). It would be expected to be more as the end behavior is as \(x\) gets bigger, \(y\) gets bigger.

4. \(3.392 \cdot 10^5\) greater

5. \(\frac{2a}{3b^2c^2}\)

6. \(A\)

7. \(\frac{2\pi x^3}{3} - \pi x^2 - 4\pi x + \frac{20\pi}{3}\)

8. \(x^4 + 3x - 12\)

9. \(x^3 - 14x^2 + 57x - 54\)

10. \(x^3 - 4x^2 - 11x + 30\)

11. \(49x^2 - 42x + 9\)

12. (Image of a graph)