

due Wednesday: read pp. 214-218

1. Determine the remainder when $x^6 + 2x^2 - 4x + 1$ is divided by $x + 1$.
2. If $x^3 - 3x^2 + 15x - 20$ is divided by $x - 3$, what is the remainder?
3. When $x^3 + kx^2 - 7$ is divided by $x - 2$, the remainder is -3 , find k .
4. pg. 224 / #20, 23, 24
5. By synthetic division, find the quotient and the remainder:
 - a. $(x^4 - 2x^3 + x^2 - x + 2) \div (x + 1)$
 - b. $(2x^4 - 3x^2 + x + 5) \div (x + 3)$
 - c. $(x^6 - 12) \div (x - 1)$

Thursday:

1. Use Descartes' rule of signs to determine how many positive and how many negative zeros each polynomial function may have:
 - a. $f(x) = -4x^7 + x^3 - x^2 + 2$
 - b. $f(x) = 3x^3 - 2x^2 + x + 2$
 - c. $f(x) = x^5 + x^4 + x^2 + x + 1$
 - d. $f(x) = x^6 - 1$
2. List the potential rational zeros of each polynomial function:
 - a. $f(x) = x^5 - 6x^2 + 9x - 3$
 - b. $f(x) = -4x^3 - x^2 + x + 2$
 - c. $f(x) = 6x^4 - x^2 + 9$
 - d. $f(x) = 6x^4 + 2x^3 - x^2 + 20$

Monday:

1. Find the bounds to the zeros of each polynomial function:
 - a. $f(x) = 2x^3 + x^2 - 1$
 - b. $f(x) = 2x^3 - x^2 - 11x - 6$
 - c. $f(x) = x^4 + 3x^3 - 5x^2 + 9$
2. Find the real zeros of each polynomial function:
 - a. $f(x) = x^3 + 2x^2 - 5x - 6$
 - b. $f(x) = 3x^3 + 4x^2 - 2x - 1$
 - c. $f(x) = 6x^4 - x^3 - 13x^2 + 2x + 2$