

2.4 Practice Activity

Practice 2.4-1-1:

Using the remainder theorem to evaluate a polynomial.

$$f(x) = 2x^5 - 3x^4 + 2x^3 + 4x - 1 \text{ at } x = -1$$

$$f(-1) = 2(-1)^5 - 3(-1)^4 + 2(-1)^3 + 4(-1) - 1$$

$$f(-1) = 2(-1) - 3(1) - 2(-1) + 4(-1) - 1$$

$$f(-1) = -2 - 3 + 2 - 4 - 1$$

$$f(-1) = -8$$

Practice 2.4-2-1:

List all possible rational zeros of

$$f(x) = 2x^3 + x^2 - 4x + 1$$

Practice 2.4-3-1:

Using the rational zero theorem to find rational zeros.

$$f(x) = 2x^3 + x^2 - 4x + 1$$

Practice 2.4-5-1:

Find zeros of a polynomial function

q : factors of 2
are $\pm 1, \pm 2$

p : factors of 6
are $\pm 1, \pm 6, \pm 2, \pm 3$

$$f(x) = \underbrace{2}_{\text{q}}x^3 - 3x^2 - 11x + \underbrace{6}_{\text{p}}$$

1. Solve the remaining polynomial
Factor or use the quadratic formula to find more zeros.

$$2x^2 + 3x - 2 = 0$$