Practice Exercises

A. Find all rational zeros of each function.

1. $P(x) = 3x^3 + 8x^2 - 15x + 4$
2. $P(x) = 15x^4 - x^3 - 17x^2 + x + 2$
3. $P(x) = 2x^4 + 3x^3 - 12x^2 - 7x + 6$
4. $P(x) = 2x^3 + 7x^2 - 5x - 4$
5. $P(x) = 3x^3 + 4x^2 - 28x + 16$

B. Find a polynomial function with the following sets of zeros.

1. $\left\{-4, 2, \frac{2}{3}\right\}$
2. $\left\{1, -1, -\frac{2}{5}, \frac{1}{3}\right\}$

3. $\{4, 2+i, 2-i\}$

4. $\{7, 3+i, 3-i\}$

Problem Set

A. Find all rational zeros of each function.

1. $P(x) = 2x^4 - 3x^3 - 4x^2 + 3x + 2$
2. $P(x) = 3x^3 + 8x^2 + 3x - 2$
3. $P(x) = 2x^3 + x^2 - 7x - 6$
4. $P(x) = 4x^3 + 5x^2 - 7x - 2$
5. $P(x) = 2x^4 - x^3 - 8x^2 + x + 6$

B. Find a polynomial function with the following sets of zeros.

1. $\left\{-3, 1, \frac{1}{3}\right\}$
2. $\left\{1, -1, -\frac{1}{2}, \frac{2}{3}\right\}$

3. $\{3, 4+i, 4-i\}$

4. $\{2, 5+i, 5-i\}$