M143

Descartes' Rule of Signs Exercises

In Exercises 1-10, use Descartes' Rule of Signs to obtain information about the zeros of the polynomial.

1. $P(x) = x^3 + 2x + 1$
2. $P(x) = x^5 + 3x^3 + 4x + 6$
3. $P(x) = x^4 + 3x^2 - 2x - 1$
4. $P(x) = x^6 + 2x^4 - 3x - 5$
5. $P(x) = 2x^3 - x^2 + 3x + 2$
6. $P(x) = -x^5 + 3x^2 - x - 4$
7. $P(x) = 6x^4 + 5x^3 - 14x^2 + x + 2$
8. $P(x) = 9x^4 - 9x^3 - 19x^2 + x + 2$
9. $P(x) = x^5 + 2x^4 - x - 2$
10. $P(x) = x^5 - 2x^4 - 9x^3 + 8x^2 - 22x + 24$

Solutions #'s 1-4:

1.

+	−	ℂ
0	1	2

roots

2.

+	−	ℂ
0	1	4

3.

+	−	ℂ
1	1	2

4.

+	−	ℂ
1	1	4