

1. Verify that the function $f(x) = x^3 + x - 1$ satisfies the hypotheses of the Mean Value Theorem on the interval $[0, 2]$. Then find all numbers c that satisfy the conclusion of the Mean Value Theorem.
2. Given the function $f(x) = 2x^3 - 3x^2 - 12x$.
 - (a) Find the intervals on which f is increasing or decreasing.
 - (b) Find the local maximum and minimum values of f .
 - (c) Find the intervals of concavity and the inflection points.
 - (d) Use the information from parts (a)–(c) to sketch the graph of f .
3. P. 167 # 18
4. P. 183 # 8
5. P. 183 # 28
6. P. 184 # 42
7. P. 185 # 50
8. P. 190 # 6
9. P. 191 # 28