

Section 3.3 Book Assignment

For Problems 4, 5, 7, 9, 10, 13b, and 13c do the following:

- a. Find the stationary points
- b. Use the first derivative sign table to determine the intervals where the function is increasing or decreasing.
- c. Use the second derivative sign table to determine which points are local maximums and which points are local minimums.

4. $g(x) = x^3 + 4x^2 - 3x + 2$

5. $g(x) = 5 + 12x^2 + 4x^3 - 3x^4$

6. $g(x) = 3x^5 - 25x^3 + 60x$

7. $h(x) = \sqrt{x^2 + 25}$

8. $h(x) = x^3(x - 4)^4$

9. $h(x) = (2x + 8)^2(3x - 6)^2$

10. $h(x) = x^2e^x$

13. Determine possible local extreme points and values for the following functions:

(a) $f(x) = -2x - 1$ (b) $f(x) = x^3 - 3x + 8$ (c) $f(x) = x + \frac{1}{x}$