1. Page 626 # 27-40, 47-54, 79-86 Use the first derivative test to determine the intervals where f(x) is increasing and decreasing and any local extrema.

   $f(x) = 2x^3 - 3x^2 - 12x - 5$

2. Page 645 # 7-18 Find the 2nd derivative.

   $f(x) = -x^3 + 2x^2 - 3x + 9$ $\qquad$ $f(x) = (x^2 - 16)^5$

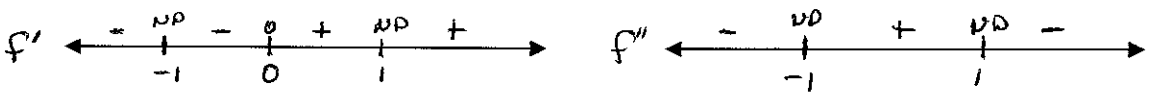
3. Page 645 # 25-34 Use the second derivative test to determine the intervals where f(x) is concave up and concave down and any inflection points.

   $f(x) = x^3 - 18x^2 + 10x - 11$

Page 626 #55-58, Page 645 # 29-32, Page 667 #3-6 Graph.

$\lim_{x \to \pm\infty} f(x) = 2$

x	-1	0	1
$f(x)$	0	0	1



4. Find the intervals where f(x) is increasing, decreasing and any local max and min.
5. Find the intervals where f(x) is concave up and down, any inflection points, and any asymptotes.
6. Sketch the graph.

7. Page 657 # 1-14 Use L'Hopital's rule to find the limit.

   $\lim_{x \to 0} \dfrac{e^x - 1}{x}$ $\qquad$ $\lim_{x \to \infty} \dfrac{2x^2 + 7}{5x^3 + 9}$

8. Page 647 # 89-92 N(x)= the number of units sold after spending $x thousand on advertising. Find the amount that should be spent in order to maximize the returns. (The point of diminishing returns)

   $N(x) = -.25x^4 + 13x^3 - 180x^2 + 10{,}000 \qquad 15 \le x \le 45$

9. Page 679 # 57-62 Find the absolute max and min over the interval $[0,4]$.

   $f(x) = 2x^3 - 3x^2 - 12x + 24$

10. Page 689 # 11-14,17-20, 24-26

    A Cajun restaurant sells 250 lunch specials at $6.00 each day. Market research shows that for each decrease of $.50, 25 more lunches will be sold. What price should be charged in order to max the revenue?

    A home owner is building a fence to enclose a vegetable garden of area 1250 square feet. The fencing on three sides will cost $2 and the forth side will cost $6. Let x and y represent the length of the sides. What dimensions of the garden will minimize the cost?