Section 5.3

Exercise 1. Given the function $f(x) = x^{(1/3)}(x+3)^{(2/3)}$

1. Find the intervals on which f is increasing or decreasing.

2. Find the local maximum and minimum values of f.

3. Find the intervals of concavity and the inflection points.

4. Use the information to sketch the graph of f.

Exercise 2. Given $f(x) = 2\sin x + sin^2 x$ for x in $[0, 2\pi]$.

1. Find the intervals on which f is increasing or decreasing.

2. Find the local maximum and minimum values of f.

3. Find the intervals of concavity and the inflection points.

Exercise 3. Given $f(x) = (x^2 - 1)^4$.

1. Find the intervals on which f is increasing or decreasing.

2. Find the local maximum and minimum values of f.

3. Find the intervals of concavity and the inflection points.