Consider the function
\[ P(x) = 8x^5 - 18x^4 - x^3 + 18x^2 - 7x. \]

Our goal is to find all critical points and points of inflection. Critical points are where the derivative \( P'(x) \) is zero. Points of inflection are where the second derivative is zero. The second derivative \( P''(x) \) is the derivative of the derivative function.

a. Graph the function. You may have to adjust your axes to make the graph look nice - you should be able to see five points where \( P(x) = 0 \).

b. Have Maple find the derivative of \( P(x) \) with the command \( \text{dP} := \text{D(P)}; \). Graph the derivative and indicate all regions where the function \( P(x) \) is increasing.

c. Locate the critical points on your graph. Use the \text{fsolve} command to make Maple solve for the \( x \) value at each critical point.

d. Have Maple find the second derivative of \( P(x) \) (take the derivative of the derivative). Graph it, and indicate all regions where the function \( P(x) \) is concave up, that is, regions where the second derivative function is positive.

e. Locate the points of inflection on your graph. Use Maple to solve for the \( x \) value at each point of inflection.

f. What can you say about the locations of the critical points compared to the points where \( P(x) = 0 \)? What can you say about the locations of the points of inflection compared to the critical points?