Name:_____

Date Started: _____Date Completed: _____Score:_____

Learning Activity Sheet
Problems Involving Polynomial Functions

Answer the following questions. Use another sheet of paper if necessary.

The average fuel consumed by individual vehicles in the United States from 1960to 2000 is represented by the equation $f(t) = 0.025t^3 - 1.5t^2 + 18.25t + 654$, where t isthe number of years since 1960.

a. Graph the equation. Plot points every fifth year starting from 1965 to 2000. Makea table of values and connect the points with a smooth curve. You may also use agraphing calculator or Desmos/GeoGebra. Using a table of values, graph: $f(t) = 0.025t^3 - 1.5t^2 + 18.25t + 654$.

t	0	5	10	20	25	30	35	40
f(t)	654							

Then, plot the points.

b. Describe the turning points of the graph and its end behavior.

Between 1965 to 1970, there is a relative _____ (maximum or minimum).

For the end behavior, as t increases, F(t) _____ (increases or decreases).

c. What trends in fuel consumption does the graph suggest?

_____

_____

_____