

3.) Using a graphing calculator and quadratic regression to find a model:

A study compared the speed x , in miles per hour and the average fuel economy y (in miles per gallon) for cars. The results are shown in the table. Find a quadratic model in standard form for the data.

Speed x	15	20	25	30	35	40	45	50	55	60	65	70
Fuel Economy y	22.3	25.5	27.5	29	28.8	30	29.9	30.2	30.4	28.8	27.4	25.3

Define variables. $x =$

$y =$

a) Write a quadratic model for the data.

b) Find the speed to travel to obtain 24 mpg.

c) Find the fuel economy if the speed is 42 mph