AP STATISTICS
STRAIGHTENING SCATTERPLOTS

NAME ______________________________________
DATE ____________________PER ___________

The table below shows stopping distances in feet for a car tested 3 times at each of 5 speeds. We hope to create a model that predicts stopping distance from the speed of the car.

Speed(mph)	20	20	20	30	30	30	40	40	40	50	50	50	60	60	60
Stopping Distance (ft)	64	62	59	114	118	105	153	171	165	231	203	238	317	321	276

a. Sketch a scatterplot of the data below.

b. What is the equation of the LSRL?

c. Sketch the residual plot below.

d. Is the linear model a good fit? Explain.

Since the data is clearly not linear, we will try to re-express the data to make it linear. Fill in the following table. Label the axes of each graph.

Re-expression	Scatterplot	LSRL Equation	R^2 value	Residual Plot
y^2 v. x				

Re-expression	Scatterplot	LSRL Equation	R^2 value	Residual Plot
$\sqrt{y}$ v. x				
log y v. x				
$\frac{-1}{\sqrt{y}}$ v. x				
log y v. log x				

b. Which re-expression seems to have worked the best? Explain your decision.

c. Use this equation to predict the stopping distance for a car traveling 54 miles per hour.