

Find the Curve Activity

Part I: Gather the Data

1. Open Geometer's Sketchpad and import a picture you want to match a curve to
2. Under the **Graph** menu, select **Define Coordinate System**
3. Adjust the placement of the grid (if desired)
4. Plot several points onto what appears to be the line/curve...the more the better!
5. Select the points you created
6. Under the **Measure** menu, click **Coordinates**

Part II: Find the Regression

1. Enter the coordinates you just found into Microsoft Excel (enter them as a table of x and y values)
2. Plot the points on a scatter plot (the plot should look roughly like the outline of your curve)
3. Right click on the plotted curve and click **Add Trendline**
 - a. Choose an appropriate type of curve
 - b. Click the options **Display Equation on Chart** and **Display R-squared Value on Chart**

Part III: Analyze the Result

1. Returning to Geometer's Sketchpad, under the **Graph** menu, select **Plot New Function**.
2. Enter the equation to the trendline from your Excel document.
3. Interpret the result, think about the following questions:
 - a. What do you think you could have done to make fit the curve more accurately?
 - b. What does the R-squared value tell you about your result?
 - c. How might you increase your R-squared value?
 - d. Return to plotting points and try a new regression line, compare the different types of regressions with your first result, what do you notice?