**Modeling the Golden Gate Bridge**

In this project, you will create a quadratic model of the main support cable of the Golden Gate Bridge in San Francisco, California.

Open the Golden Gate.gsp Geometer’s Sketchpad file. You will see an image of the Golden Gate Bridge superimposed over a Cartesian plane. Your objective is to create a quadratic equation such that its graph will model the parabolic shape of the main support cable of the bridge. Your model should reflect the ***actual bridge*** in real life, and ***not*** simply the image of the bridge given.

What information would be useful to help you complete this task?

You may move the entire image around on the Cartesian plane, but please do not resize the image, as you will very likely distort the proportions in the image if you do.

You may also adjust the horizontal and vertical axes scales as needed.

After you have developed your model equation, enter it into the Geometer’s Sketchpad document, and see how well it fits. Make any adjustments until you are satisfied that you have the best possible model equation.

In a word-processed document, clearly describe the process you used to develop your quadratic model, using correct mathematical notation and terminology. You should use the Equation Editor in Microsoft Word, or the Math Type software for all mathematical notation.

Once you have completed the project, please submit the Sketchpad file and your word-processed document electronically to the location designated by your teacher.