Consider the model:

$$y = e^{-x^2} \cos(\theta_1 x)$$

and the data points given in `UnidentPoints.txt`

(a) Plot your data points and some representative model curves. Are there multiple model curves that may fit your data exactly?

(b) Define your cost as $C = \frac{1}{2} l_2^2$.
Plot the cost surface of your model and identify the minimum/minima. Note that your cost "surface" is one-dimensional.

(c) Produce several fits to your data with varying initial parameter guesses and report their cost.

(d) Is there a regime in which θ_1 is an unidentifiable parameter? Why or why not? If so, what could be changed about your sampling to make θ_1 an identifiable parameter?