Your Name: _____

Names of people you worked with: _____

Instructions: Work on this problem in class with your group (if you are attending class synchronously) or out of class (hopefully with a person or two! if you are attending class asynchronously). The problem should be done on a piece of paper with a pencil or on some kind of tablet. The problem should **not** by typed up or done in LaTeX.

Work for a *maximum* of 15 minutes on the problem (regardless of what time you are working). *Do not* come back to the problem to "fix it up" or "finish it." Be sure to write down the names of the people you worked with during class (or outside of class).

Take a picture of your work and use a scanning app to create a pdf (or create a pdf directly from your tablet). Upload your work to Gradescope (via Sakai) within 24 hours of class.

Task: We want to predict the high temperature in Claremont on a randomly selected day in October. Suppose we know the variance $\sigma^2 = 12^2$. The mean, θ, is unknown. Also, let's say we'll model the temperatures using a normal distribution.

Let $X =$ high temp on a randomly selected day in Claremont in October:

$$X \sim N(\theta, \sigma^2 = 12^2)$$

Write down the prior distribution on θ. That is, provide your best guess as to the value of θ using the normal distribution to model **your own personal** uncertainty about the parameter of interest.

1. Use notation. I.e., $\theta \sim \ldots$

2. Write out the prior pdf. I.e., $\xi(\theta) = \ldots$

Note: there is no right answer here. But there are some answers that seem more plausible than others.