Lab 4

Use a dataset containing homes in the Seattle, WA area http://www.math.montana.edu/ahoegh/teaching/stat408/datasets/SeattleHousing.csv for this question.

Estimate the posterior distribution for the probability that houses in Seattle have more than 2 bathrooms.

```
library(tidyverse)
library(scales)
seattle <- read_csv('http://www.math.montana.edu/ahoegh/teaching/stat408/datasets/SeattleHous
  mutate(more_than2baths = bathrooms > 2)

z <- sum(seattle$more_than2baths)
N <- nrow(seattle)
```

1. (2 pts)

Justify your prior distribution.

2. (2 pts)

State the probability model you will using. You can, but don't need, to write out the full functional form of the probability mass/distribution function.

3. (2 pts)

What is the form of your posterior distribution?

4. (2 pts)

Plot your prior and posterior distributions on the same figure.

5. (2 pts)

Pretend your cousin has recently accepted a new job that requires relocating to Seattle. Summarize your findings (with regard to probability of finding a house with more than 2 bathrooms) in a non-technical manner avoiding statistical lingo.