**Question 13.1**

*For each of the following distributions, give an example of data that you would expect to follow this distribution (besides the examples already discussed in class).*

# *Binomial*

# In a clinical trial, a new drug or treatment to cure a disease is tested on a bunch of patients. Out of *n* total patients, the number successfully cured by the drug/treatment might follow the binomial distribution.

# *Geometric*

A consultant flies from New York to Atlanta early every Monday morning, arriving at 9am for a 10:30am weekly meeting. The number of weeks the consultant will be on time before the first time the flight is delayed long enough to miss the meeting, might follow the geometric distribution.

# *Poisson*

# The expected number of babies that will be born in the United States tomorrow might follow the Poisson distribution.

# *Exponential*

The time between births of babies in the United States tomorrow might follow the Exponential distribution.

# *Weibull*

# In training for track events, the length of time an athlete runs before having to stop might follow the Weibull distribution. We would expect that *k* < 1: weaker athletes would last a shorter amount of time, and stronger ones would last longer.