

# Stats 314, Data Analysis #1

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## Part I

**a**

Uniform distribution, because it is continuous, each time has an equal probability, and distribution. This is a property unique to uniform distributions.

**b**

Poisson distribution, because we are given an average rate over a discrete random variable.

**c**

Exponential distribution, we're given a continuous random variable with an average rate (8), while also being given a skew indicating an exponential distribution.

**d**

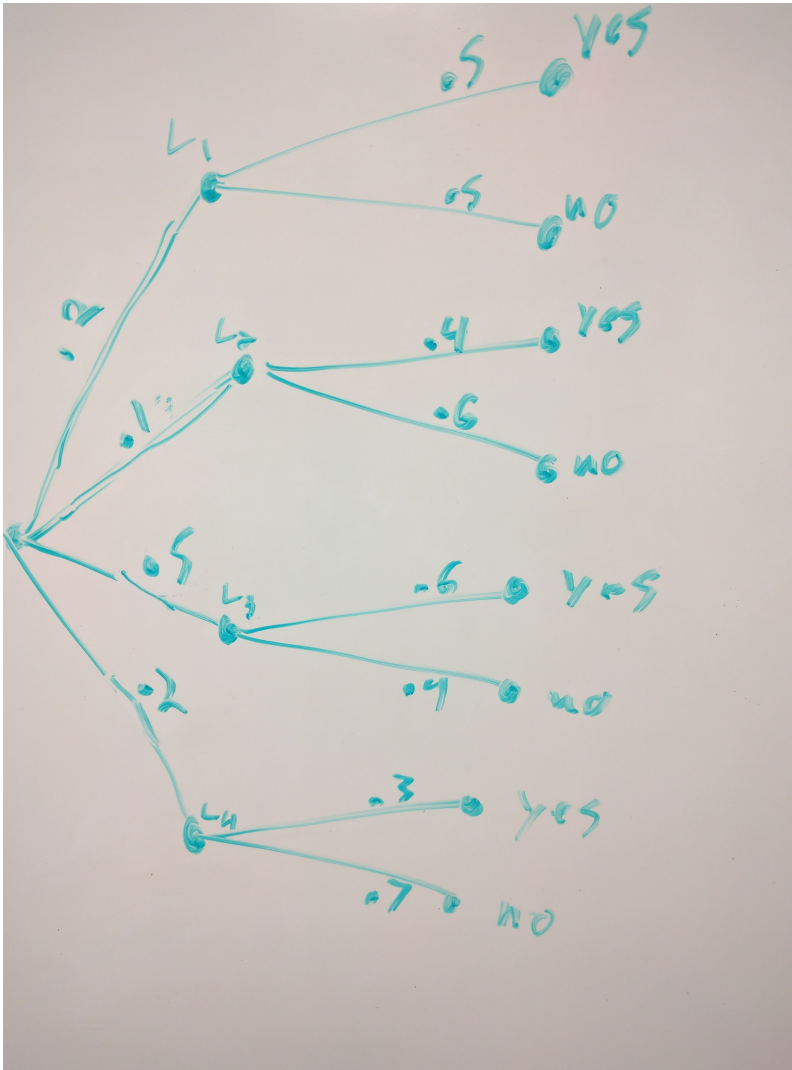
Binomial distribution, as we are given a set of independent events, two possible outcomes, a probability of failure (.25) and through that success (.75).

**e**

Normal distribution, as we are given an average value (6), the standard deviation from that value (.6), and are told that values farther from the median value are less likely. This describes a typical bell curve.

## Part II

a



b

To get the probability of a ticket, we have to use the law of total probability to calculate the combined probability of getting a ticket in each area given that they are in operation.

$$L1: .2 * .5 = .1$$

$$L2: .1 * .4 = .04$$

$$L3: .5 * .6 = .3$$

$$L4: .2 * .3 = .06$$

$$P(\text{ticket}) = .1 + .04 + .3 + .06 = .5$$