Names of Group Members:

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1 In Class Activity - Submission

After you are done answering the questions in your groups. Write combined solutions to this sheet. Note that will **not** receive points merely by writing down the answer. Show your work.

Q1. What is the probability that a randomly selected Bob Ross painting will have a tree in it?

Q2. What is the probability that a randomly selected Bob Ross painting will have a tree and a mountain?

Q3. You sat down and are watching an episode of *The Joy of Painting*. Bob Ross has already painted a mountain, what is the probability that this painting will have a tree?

Q4. Do the events of a painting having a tree and a painting having a mountain seem independent? Why or why not?

Q5. Fill in the blanks in the code below for the plot on your handout.

```
bob_ross %>%
  ggplot(aes(x = _____,
             fill = _____)) +
  _____
```

Q6. Based on the data on your handout, calculate the expected household size as well as the variance.