

Data Detectives
Cracking Consumer Choices Answers**Cellphone Searching**

1. a) 720 ; $0.36 \times 2000 = 720$
 - b) For example: I assumed that the sample was representative of the population. I assumed that the survey accurately represented peoples' feelings about the phone.
 - c) For example: No, I don't think the prediction is reasonable. Since the reviews were on the brand's website and not on an independent website, I think the percent of reviews that are five stars could be a lot higher than it would be if all buyers were sampled independently. So, 720 is probably high.

Laptop Batteries

2. a) For example: It compares poorly. The mean of the five results is 12.02 hours. Only one data point is at or above Chet's requirement.
 - b) For example: I recommend that Chet does not buy this brand of laptop. The battery life appears to be well below what Chet is looking for. Only 1 of the 5 batteries lasted at least 14 hours.
 - c) For example: The mean number of hours is about 13.06, which is still below Chet's requirement. The median number of hours is 14 ($(13.9 + 14.1) \div 2 = 14$).
8, 9, 9.5, 9.8, 10, 10.25, 10.5, 10.5, 10.75, 11.7, 12, 12.25, 12.5, 13.2, 13.9, 14.1, 14.2, 14.5, 14.5, 14.7, 14.8, 14.9, 15, 15, 15, 15.5, 15.7, 16, 16.1, 18.
This means that 50% of the data points are 14 hours or greater, which implies that Chet has about a 50% chance of getting a laptop that meets their criteria.
 - d) For example: I probably wouldn't change my recommendation. The results from the larger sample are likely more representative of the laptop's battery life, but the mean is still less than Chet's requirement. Also, although 50% of the times are greater than 14 hours, 50% seems too low to base a purchase on.

Collectible Cards

3. a) For example: They appear to have assumed that each type of card is equally likely; but I think there would be more base cards than rare cards, so I say the person's conclusion is incorrect.
 - b) 22 out of 200 cards were rare, so the experimental probability is 11%.
 - c) For example: I don't think this is accurate. One of the decks had a lot more rare cards than the others, which might skew the probability. If I leave out that data point, the probability is only about 7%.