

Data Management
Unit 1 Line Master 19a**Data Detectives**
Cracking Consumer Choices**Cellphone Searching**

1. Christopher is researching data on new cell phones.
They found review data for a particular phone on a brand's website.

Number of Stars	Percent of Reviews
★	18%
★★	10%
★★★	17%
★★★★	19%
★★★★★	36%

- a) If 2000 people recently bought that phone, calculate to predict how many you would expect to give five-star reviews.
- b) What assumptions did you make in your prediction?
- c) Do you think this is a reasonable prediction? What biases might impact the accuracy of your prediction? Explain your thinking.

Laptop Batteries

2. Thirty laptops of a particular brand had their battery life tested.
Chet is hoping to find a laptop that has a battery life of at least 14 hours.
- a) The first five results were 10.5, 13.2, 9.8, 14.9 and 11.7 hours.
How does this sample compare to Chet's requirement?
- b) What recommendation might you make based on this sample?

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c) The table below shows the data, in hours, for all 30 laptops tested.

10.5	13.2	9.8	14.9	11.7
14.5	9	10.25	8	14.8
15.7	16.1	10.5	15	14.5
13.9	14.1	14.2	12.5	16
15	12	10	15	14.7
12.25	18	15.5	9.5	10.75

How does this sample compare to Chet's requirement?

d) Would you change your recommendation based on this larger sample?
Explain your thinking.

Collectible Cards

3. A deck of collectible cards contains three types of cards:
base cards, rare cards, and ultrarare cards.

- a) Someone says that there is about a 33% chance that a given card is a rare card.
What assumptions might this person have made? Are they correct?
- b) You buy four decks, each with 50 cards. You find that there are 3, 5, 2, and 12
rare cards in the decks. What was the experimental probability that a given card
was a rare card?
- c) Do you think this prediction (experimental probability) is accurate?
Why or why not?