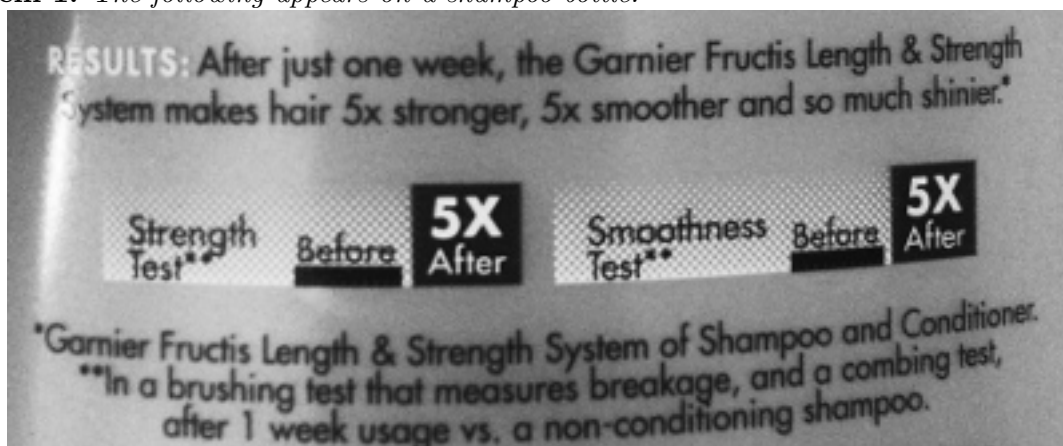


**Problem 1.** *The following appears on a shampoo bottle:*



- (a) *The image shows the result of two studies. What products are being compared?*
- (b) *What is the type of study (experimental vs observational), and how would you expect the testers to measure the outcomes?*
- (c) *What kind of graph is used to display the results? Is it appropriate for the tests?*
- (d) *What useful information concerning the graph is not available?*
- (e) *What can you conclude about the shampoo based on this image?*

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**Problem 2.** *The following appears in a news article about the faculty strike at the University of Illinois – Chicago (<https://www.jacobinmag.com/2014/02/faculty-on-strike/>).*

*The tenure track faculty, of course, is better paid. But a quarter of those faculty members make less than \$75,000, and another quarter make less than \$90,000. The median salary of all faculty at UIC is about \$65,000 — less than what the average Chicago public school teacher makes.*

*Note that the term “faculty” includes temporary university employees (mostly with PhDs), “tenure faculty” are those with permanent positions, and “tenure track faculty” are either permanent or being considered for permanent status.*

(a) *The paragraph is conveying the results of a study. Is it experimental or observational? What was examined?*

(b) *According to the quote, what is the median salary for tenure track faculty at UIC?*

(c) *According to the quote, what is the median salary for all faculty at UIC?*

(d) *What group of people is the study interested in? What group of people serves as the baseline? Is this a useful comparison?*

(e) *How are the results of the study displayed? What graphs would provide additional context for this paragraph?*