

**10.5 Practice A**

1. The numbers of words per text message in a random sample of 30 text messages are shown in the table.

Number of Words Per Text Message									
3	10	9	12	21	17	4	6	18	2
10	3	9	12	5	24	19	4	1	7
5	11	14	6	2	4	14	6	9	12

- a. Estimate the population mean  $\mu$ .
- b. Estimate the population proportion  $\rho$  of text messages that contain more than 12 words.
- c. Estimate the population proportion  $\rho$  of text messages that contain less than five words.
2. A survey asks a random sample of U.S. college students how many hours they spend surfing the Internet each day. The survey reveals that the sample mean is 2.7 hours per day. How confident are you that the average time spent surfing the Internet each day of all U. S. college students is exactly 2.7 hours per day? Explain your reasoning.
3. The number of households with pets is increasing. A national polling company claims that 43% of U.S. households have at least one pet. You survey a random sample of 50 households.
- a. What can you conclude about the accuracy of the claim that the population proportion is 0.43 when 29 households have at least one pet?
- b. What can you conclude about the accuracy of the claim that the population proportion is 0.43 when 22 households have at least one pet?
- c. Assume that the true proportion is 0.43. Estimate the variation among sample proportions for samples of size 50.