DIRECTIONS:

- See **How To Succeed With Stats Homework** on page 2 of the syllabus. Students report that using a similar *accounting system* helps them get the most out of the homework and solid quiz and exam preparation.

- Refer to the Six Steps Diagram near the start of Topic 1 and also to Topic 1 Examples 1 and 2 to get started. (Leverage your Notebook answers to help with homework.)

- Write Homework answers out on separate paper.

> It’s strongly recommended that you collect all of your Homework work in your own personal and separate folder or binder. That makes it easier to study for exams (especially the comprehensive final exam at the end of the semester.)

- It’s a great idea to check answers to each problem on the Stats website before going on to the next one to ensure that you’re on the right track. (The Homework Solution may also be printed for convenience.)

- HW1 is due next Tuesday but isn’t collected. (Instead the Discussion quiz next week will test your understanding of and skills with the Six Steps.)

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**Problem 1 (Cable service in El Paso)**

CableView, Inc. is a cable company operating out of Tucson, Arizona. CableView is considering an ambitious plan to expand its operations into El Paso, Texas in 2012. In order to attract new business in the El Paso market, CableView is considering offering a “cut-rate deal” of full television cable service (including movie channels) for 12 months for a fee of $250 per household.

Suppose that there are 22,000 households in El Paso that currently carry no cable service. Due to administrative and other start-up costs, CableView cannot “break even” or make money on the venture unless at least 3800 of the cable-less households in El Paso accept CableView’s cut-rate offer. CableView hires a polling firm in El Paso to randomly contact cable-less households in El Paso by telephone, and ask the question “Would your household be willing to purchase CableView’s service in 2012 for $250?” The polling firm agrees to continue the telephone poll until a “Yes” or “No” answer is received from 300 cable-less households in El Paso.

Suppose in the telephone poll that 33 out of the 300 cable-less households contacted agree to purchase CableView’s service in 2012.

(a) Apply the Six Steps of Inference.

- Express the question *non-numerically.*
- Step 1.
- Step 2.
- Step 3.
- Step 4.
- Step 5.
- Step 6. (Problem 1 continued next page)
Problem 1, continued.

(b) Should CableView enter the El Paso market in 2012, based on these sample results? Explain.

(c) Name one weakness of the survey plan which may reduce the reliability of the inference.

Problem 2 (Inventory in a sports shop)

On Jan. 10, the store manager closed the store to take the annual store inventory. The manager wanted to know the total retail value of all athletic shoes in stock, so she painstakingly wrote down the retail price printed on the outside of the box of each of the 546 pairs, then added them up on a calculator. Suppose the amount on the calculator adds up to $35,234.90.

(a) Apply the Six Steps of Inference.

(b) What’s the relationship between the sample and the population?

(c) Describe the reliability of this inference. Explain.

Problem 3 (Determining neighborhood income)
Shop N' Go, Inc. is considering the potential of opening a new convenience store in a middle-class suburban neighborhood in Miami, Florida. There are exactly 1240 different households in the neighborhood, and Shop N' Go would like to determine the average household income in the neighborhood. The management of Shop N' Go estimates that a minimum average income of $60,000 will be needed in order for the store to be profitable.

Shop N' Go hired a local marketing research firm to conduct a door-to-door survey of household income. Suppose that sampling continued until 5% of all households gave responses. Suppose further that incomes obtained in the survey average $64,425.

(a) Apply the Six Steps of Inference. (Also express the question non-numerically.)

(b) Should Shop N' Go open the convenience store? Explain.

(end of assignment)