

# 2

## SEVEN BASIC PRINCIPLES

### PROBLEM SET

1. Use complete sentences to describe the relative sizes of the cities shown in table 2A.

**Table 2A. Population of the five largest cities worldwide, 2012**

City	Population (millions)
Tokyo, Japan	37.1
Jakarta, Indonesia	26.1
Seoul, South Korea	22.5
Delhi, India	22.2
Shanghai, China	20.9

Source: Worldatlas, 2014. "Largest Cities of the World." Available online at <http://www.worldatlas.com/citypops.htm>

2. What is missing from each of the following descriptions of table 2B? Note: Each statement is correct for some portion of the table (row or column).

**Table 2B. Final medal standings of the top four countries, 2014 Olympic winter games**

Country	Gold	Silver	Bronze	Total
Russia	13	11	9	33
United States	9	7	12	28
Norway	11	5	10	26
Canada	9	10	5	24

- a. "Russia did the best at the 2014 Winter Olympic Games, with 33 medals, compared to 28 for the United States, 26 for Norway, and 24 for Canada."
  - b. "The most medals were bronze (12), followed by gold (9), then silver (7)."
  - c. "The United States won more medals than all other countries, followed by Norway, Russia, and Canada."
3. For each of the following situations, specify whether you would use prose, a table, or a chart.
    - a. Statistics on five types of air pollutants in the 10 largest US cities for a government report.
    - b. Trends in the value of three stock market indices over a one-year period for a web page.
    - c. Notification to other employees in your corporation of a change in shipping fees.
    - d. Distribution of voter preferences for grade-level composition of a new middle school (grades 5–8, grades 6–8, or grades 6–9) for a presentation at a local school board meeting.

- e. National estimates of the number of uninsured among part-time and full-time workers for an introductory section of an article analyzing effects of employment on insurance coverage in New York City.
4. For each of the situations in the previous question, state whether you would use and define technical terms or avoid jargon.
5. Identify terms in the following sentences that need to be defined or restated for a nontechnical audience.
- “The Williams family’s income of \$25,000 falls below 185% of the Federal Poverty Threshold for a family of four, qualifying them for food stamps.”
  - “A population that is increasing at 2% per year has a doubling time of 35 years.”
6. Rewrite the sentences in the previous question for an audience with a fifth-grade education. Convey the main point, not the calculation or the jargon.
7. Read the sentences below. What additional information would someone need in order to answer the associated question?
- “Brand X costs twice as much as Brand Q. Can I afford Brand X?”
  - “My uncle is 6'6" tall? Will he fit in my new car?”
  - “New Diet Limelite has 25% fewer calories than Diet Fizzjuice. How much faster will I lose weight on Diet Limelite?”
  - “It has been above 25 degrees every day. We’re really having a warm month, aren’t we?”
8. Rewrite each of these sentences to specify the direction and magnitude of the association.
- “In the United States, race is correlated with income.” See table 2C.

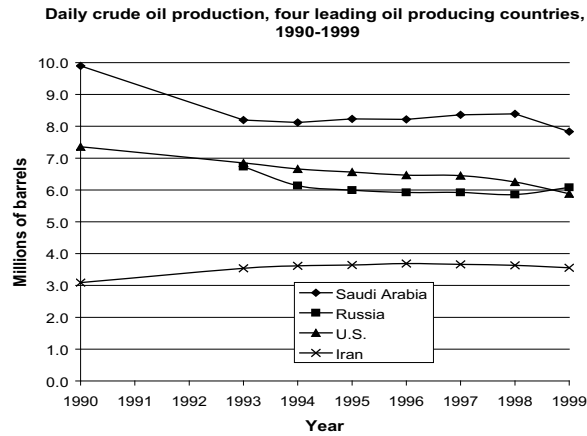
**Table 2c. Median income by race and Hispanic origin of householder, United States, 2011**

Race/Hispanic origin	Median income
White	\$52,214
Black	\$32,229
Asian/Pacific Islander	\$65,129
Hispanic (can be of any race)	\$38,624

Source: US Bureau of the Census, 2012. Income, Poverty and Health Insurance Coverage in the United States: 2011, Table A. Median Household Income. Available online at [http://www.census.gov/newsroom/releases/archives/income\\_wealth/cb12-172.html#tablea](http://www.census.gov/newsroom/releases/archives/income_wealth/cb12-172.html#tablea)

- “There is an association between average speed and distance traveled.” (Pick two speeds to compare.)
- Write a hypothesis about the relationship between amount of exercise and weight gain.

9. Use the “generalization, example, exception” (GEE) approach on pp. 33–36 of *Writing about Numbers*, 2nd Edition, to describe the patterns in figure 2A. Include an introductory sentence about the purpose of the chart before summarizing the patterns.



**Figure 2A**