The following figures contain information about how solar energy can be collected through the windows of a house. Figure 1 shows the percent of possible sunshine, Figure 2 the average outdoor temperature during the heating season, and Figure 3 the net heat gained (in British thermal units, Btu) per hour per square foot of window area.

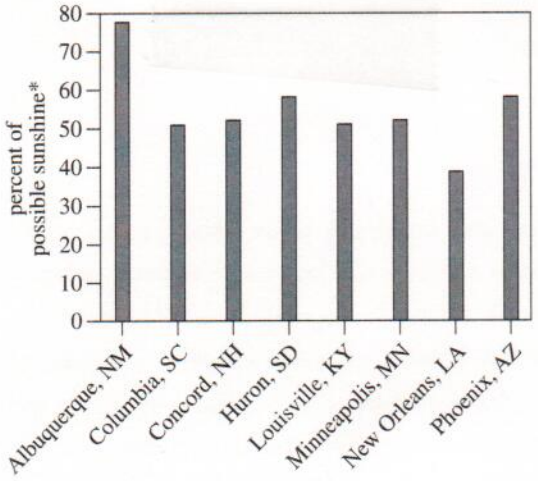

Figure 1

*percent of possible sunshine = $\frac{\text{actual hours of direct sunlight}}{\text{possible hours of sunlight}} \times 100$

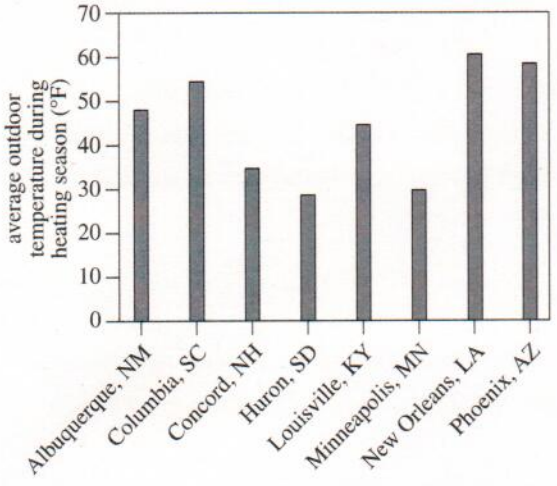

Figure 2

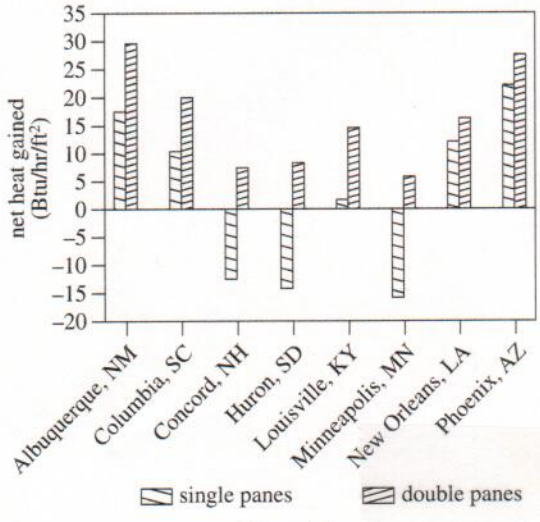

Figure 3

Single- and double-pane windows admit about the same amount of sunlight, but a single pane allows more heat to escape from the house than does a double pane.

1. According to the information in Figure 1, which of the following cities receives the LEAST percent of possible sunshine?

   A. Albuquerque
   B. Columbia
   C. Louisville
   D. New Orleans

2. According to the information in Figure 3, the greatest heat gained through double-pane glass occurs in which of the following cities?

   F. Albuquerque
   G. Minneapolis
   H. New Orleans
   J. Phoenix

3. According to the data, the greatest net heat *loss* through a single-pane window occurred in which city?

   A. Concord
   B. Huron
   C. Minneapolis
   D. Phoenix

4. Indianapolis, Indiana, receives 51% possible sunshine and has an average temperature of 40.3°F during the heating season. On the basis of the data presented, the net heat gained by a double-pane window in Indianapolis would be approximately:

   F. −15 Btu/hr/ft^2.
   G. 7 Btu/hr/ft^2.
   H. 11 Btu/hr/ft^2.
   J. 27 Btu/hr/ft^2.

5. Which of the following hypotheses about the relationship between the percent of possible sunshine and average outdoor temperature during the heating season is best supported by the data?

   A. As the percent of possible sunshine increases, the average temperature decreases.
   B. As the percent of possible sunshine increases, the average temperature increases.
   C. The average temperature is not directly related to the percent of possible sunshine.
   D. The percent of possible sunshine depends on the length of the heating season, rather than the average temperature.