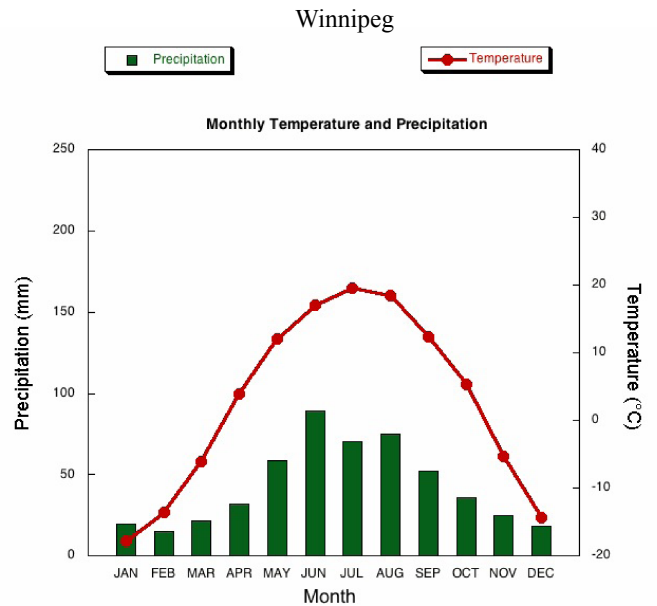
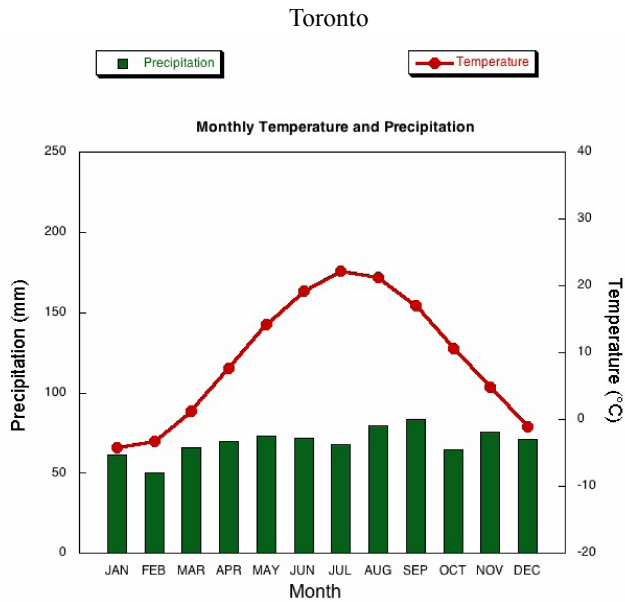
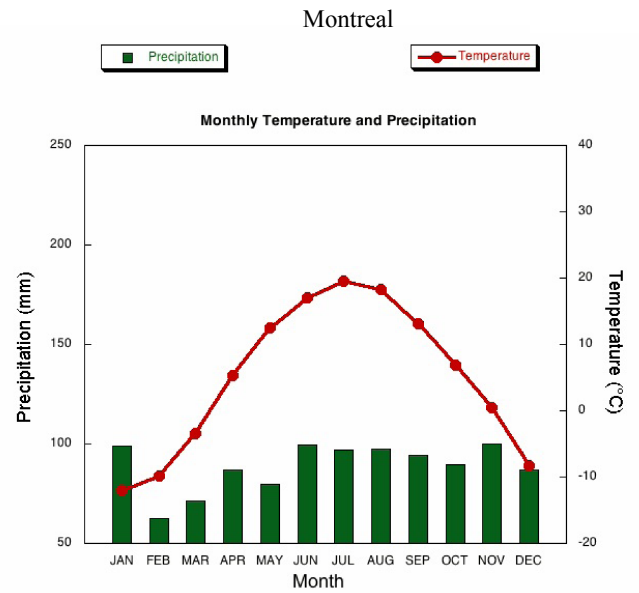
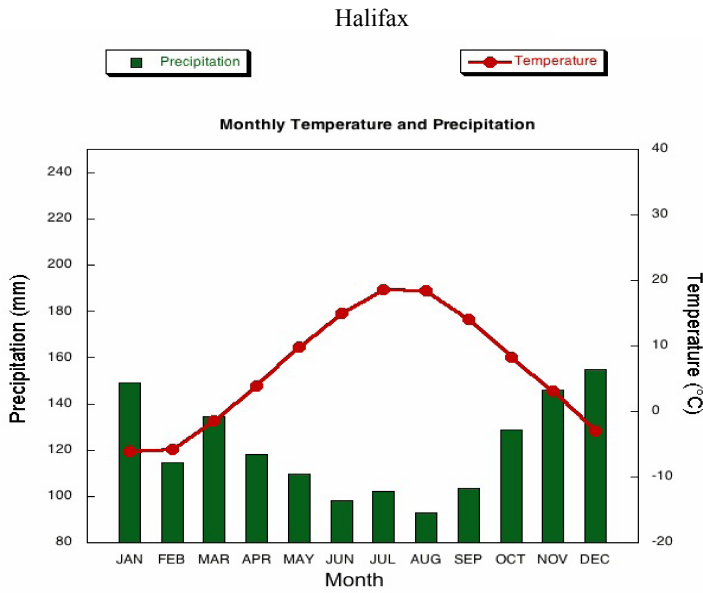
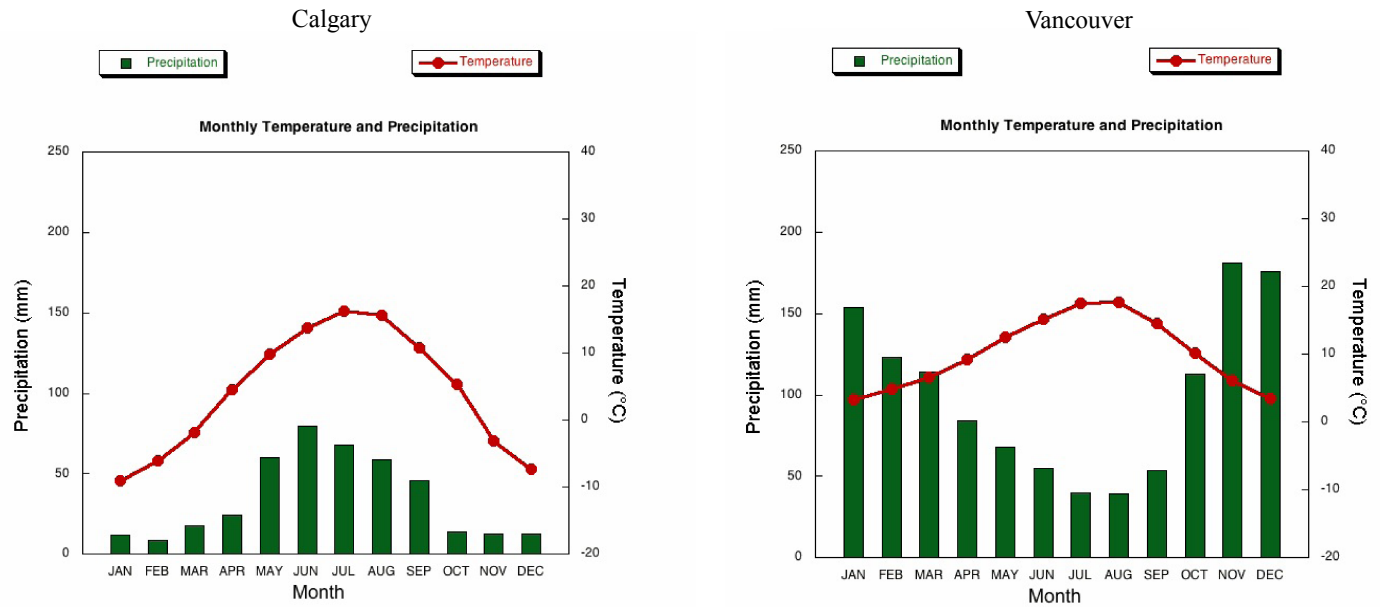


Problem

Below are ‘climographs’ which show typical data for both temperature and precipitation in several Canadian cities. Note that the precipitation scales for Halifax and Montreal are different from those of the remaining cities.





- Which city has the highest average July temperature?
- Which city has the lowest average January temperature?
- Which city has the most precipitation (snow and/or rain) in April?
- Which city is likely to get the most snow in January? Give reasons for your answer.
- Which city is likely to get the least amount of snow in January? Give reasons for your answer.
- In which city would you like to live based solely on average temperature? Why?
- In which city would you like to live based on both temperature and precipitation? Explain your choice.

Hints

Suggestion: Before starting this problem, discuss with the class how the climographs are constructed, emphasizing that the units for precipitation (mm) are distinct from the units for temperature ($^{\circ}\text{C}$). Ask students to name the two different types of graphs that are used.

Hint 1 - d) How does the temperature affect the precipitation?

Solution

The climographs reveal that:

- a) Toronto has the highest July temperature (about 23°C).
- b) Winnipeg has the lowest January temperature (about -15°C).
- c) Halifax has the most rain in April (about 118 mm).
(This is the trickiest observation. Note that, while the scales for precipitation vary from 0 to 250 mm for the last four climographs, for Halifax the scale is from 80 to 240 mm and for Montreal, from 50 to 250 mm. Thus, if student just look at the height of each bar graph for April, they will get the wrong answer. This is an excellent opportunity for discussion about how graphs can mislead.)
- d) Halifax is the city likely to get the most snow, as it has low winter temperatures combined with high precipitation.
- e) Vancouver is likely to get the least amount of snow, as the winter temperatures are above freezing, on average.

Answers for parts f) and g) will vary. Any justified response is acceptable.