Name: _____ Date: _____

Chapter 9 Problems of the Week

1. The flaps on aircraft wings tilt to help with takeoff and landings. Flap settings are measured in degrees. To ensure passenger comfort, the flaps should not be adjusted more than 15° at a time. The following is a record of the flap settings: 0°, +5°, +10°, −5°, +10°, and −10°.

a) Create a table that shows the flap settings and the difference between each change in flap setting.

b) Identify any changes that are greater than 15°. Suggest changes to eliminate any adjustments more than 15°.

2. Mount Logan is Canada's highest mountain (5959 m). Climbers who plan to summit must consider the temperature changes they will encounter. The coldest temperature recorded on the summit was −77 °C. The warmest temperature recorded near the 3000 m mark was 0 °C.

a) What is the greatest possible change in temperature?

b) If the temperature changes regularly with altitude, what temperature should climbers expect at 4000 m, 5000 m, and 6000 m?

c) How likely is it that climbers will experience the 6000 m temperature? Explain.

3. Stock market reports show the changes in the price of a stock (in cents) as being positive or negative. Suppose the stock in a Canadian solar power company started at $10.00 per share with the following month-end prices: $11.27, $12.07, $9.09, $10.05, $11.52, and $12.00.

a) Create a table using integers to show the price changes (in cents) for the six months given.

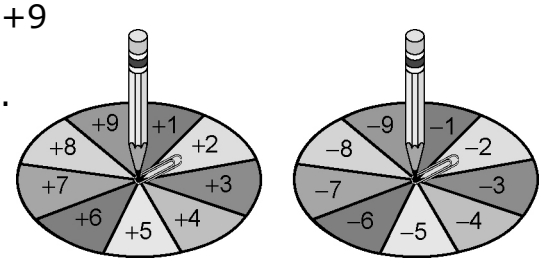
b) Predict what the price might be after one year. Explain your thinking.

4. Scientists report that the human nervous system can be fooled by temperature changes. For example, a person might describe a 20 °C pool as cool if they have come from a 30 °C hot tub. The same pool might feel warm to someone coming from a 15 °C ocean.

a) Express each temperature change as an integer.

b) What does the negative sign mean in this situation?

5. Create two spinners, one numbered +1 to +9 and the other numbered −1 to −9. With a partner, spin both at the same time. Add the results. If the result is positive, you win. If the result is negative, your partner wins.



a) Is this a fair game? Explain.

b) How could you redesign the game to give one player an advantage?