**Activity 3.1.1 Winter in Connecticut**

Winter in Connecticut can experience some pretty cold temperatures. The graph below shows a 24-hour period during which time the temperature (measured in °C) dropped well below freezing. Study the graph and answer the questions based on the features of the graph. Time *t* = 0 is the equivalent of 12:00 midnight.



1. What was the temperature at 12:00 midnight?
2. How much did the overall temperature drop in the 24 – hour period?
3. How many times during the day did the temperature read exactly 0˚C? At what time(s) did that occur?
4. During what times during the day was the temperature below 0˚C? Explain how you determined those times.
5. At what time is the temperature at a relative maximum, that is, when the temperature stops increasing and starts decreasing?
6. At what time is the temperature at a relative minimum, that is when the temperature stops decreasing and starts increasing?
7. Are the answers for questions 5 & 6 the highest and lowest temperatures of the 24-hour period? If not, what are the highest and lowest temperatures reached?
8. During what times during the day was the temperature decreasing? Can you provide an explanation why that was happening?
9. During what times during the day was the temperature increasing? Can you provide an explanation why that was happening?
10. What is happening at the beginning and end of this graph? Should arrows be placed on those ends? Why or why not?