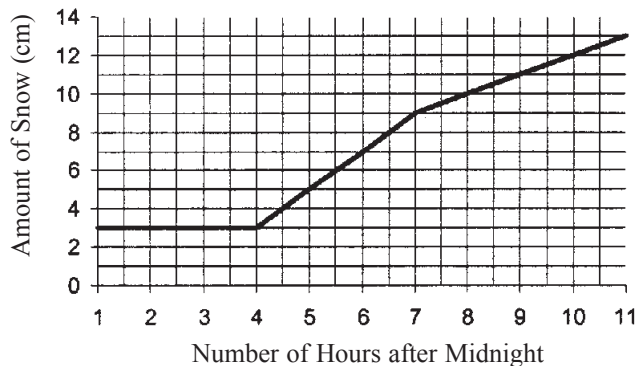


Activity Sheet 5

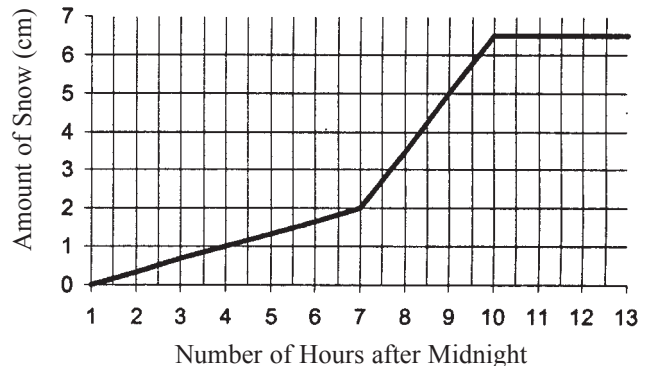
DESCRIBING SNOWFALL GRAPHICALLY

- It's midnight and there are 4 cm of snow on the ground. It begins to snow at a rate of 2 cm every 3 hours.
 - Write an algebraic equation to represent this situation. Define the variables. Identify the dependent and independent variables.
 - Sketch the graph of the function over a reasonable domain.
 - Identify the slope and y -intercept and explain what they represent.
 - If the snow continued at this rate, how much snow would be on the ground at 8 a.m.?
 - Is it reasonable to use this model to predict the snowfall in 24 hours? Why or why not?
- There are 3 cm of snow on the ground. At 8 p.m. it starts to snow at a rate of 2 cm per hour. After 3 hours the snow stops. At 2 a.m., it starts snowing again, this time at a rate of .5 cm per hour. The snowfall continues at this rate for another hour and a half. Sketch a graph that models the situation.
- Describe what's happening in each graph both verbally and mathematically. State the appropriate domain for all algebraic equations.

Snowfall in Bumby



Snowfall in Mumby



- Massena has no snow on the ground when it begins to snow at 10 a.m. The snow falls at a rate of 3 cm every 2 hours. Troy has 6 cm of snow on the ground. At the same time snow begins to fall at a rate of .5 cm per hour. At what time will they have the same amount of snow on the ground? Solve both graphically (using a graphing calculator) and algebraically.