Water Towers Problem

A small town has a single water tower to serve its citizens. After a long drought, the tower is out of water. Its capacity is 1800 kiloliters. The town will have to access water from a neighboring city until its own water tower is filled to capacity again. Beginning at 8:00 a.m., water begins flowing into the tower at a rate of 80 kiloliters per hour.

Create a table of values for the tower.

ELAPSED TIME	WATER in TOWER (kL)

Sketch the graph of the volume of water in the tower over time.

1) What is the significance of the data point located at the origin?

2) Describe the graph. What do you notice about the data points?

3) What kind of relationship does your graph represent?

4) How do you know that the relationship you stated in question #3 is correct?

5) Write the equation that represents the volume of water in the tower at any time.

6) At what time will the tower reach its capacity? What are some strategies you could use to find the answer?