102 Physical Geology Lab
Chapter 9: Groundwater

Objectives:

1. Recognize the topographic features and groundwater movements associated with *karst topography.*
2. Construct a water-table contour map and determine the rate and direction of groundwater movement.
3. Evaluate how groundwater withdrawal can cause subsidence (sinking) of the land.

Equations:

$V = \frac{D}{T}$ or $T = \left(\frac{D}{V}\right)$

$V = \left(\frac{K}{P}\right)\left(\frac{h}{l}\right)$

Where:
V = velocity
T = time
D = distance
K = hydraulic conductivity (permeability)
P = porosity
$\left(\frac{h}{l}\right)$ = hydraulic gradient (slope of water table)

Exercises: Complete the Chapter 9 questions listed below:

- Question 3: a, b, c
- Question 1b *(find the slope of the water table from Merrick Lake to Cook Lake)*
- Question 1: c
- Question 1: d, also convert the answer to d into years.
- Question 1e *(ask instructor to help you locate the windmill)*
- Question 2: a, b