Student handout

Your surface represents the town of Granite Falls, a 10 km × 10 km town located in Rock County, which measures 15.5 km × 21.5 km.

The state records office has mixed up its county maps. Find the map of Rock County, and determine the location of Granite Falls on this map.

1 Introduction

A good introduction to this activity is a SWBQ asking about representations of functions of several variables. Among the desired responses: graphs, level sets, tables of data, symbolic representations.

2 Student Conversations

Some students will wonder where to put the surface on their contour map, and how to orient it. That's the point!

3 Wrapup

If time permits, ask groups to describe the strategies they used to match their surface to the correct map.

4 Extensions

This activity leads naturally into the Park activity, especially if the last part ("Go") is omitted. An introduction to densities and possibly integration may be appropriate prior to the Park activity.

Note however that this activity treats the vertical direction as height, whereas the Park activity treats it as the density of lead. Rather than recast this activity in terms of density, we recommend calling attention to this transition.