

Name _____

Exam ID: _____

MAT21D Written Assignment
Due Friday, 1/20

Read, Reflect, and React (or Respond) Prompt #2

Even though we live in 3 spatial dimensions, there are many problems in 2 dimensions (aka surfaces) that are of great interest to mathematicians and scientists around the world. These range from astronomers mapping out the surface of the moon to computer scientists building a surface outline of a character within a video game. All these surface problems can be studied analytically using double integrals. Today, I presented a surface problem regarding filling people in my house for a house warming party. I would like you to provide your own example by answering the following:

1. Provide a surface problem, which utilizes a double integral, that is connected to your life. Make sure to clearly define the region of interest. Also, clearly state the meaning, including units, behind the function $f(x,y)$ and the resulting double integral.