Vector Calculus	Responses 0416
Dr. Paul L. Bailey	Thursday, April 16, 2020

Question 1. In the second question in the homework, could you elaborate why did you changed dx and dy go to dx/dt and dy/dt?

Answer. I think I want to try to answer this question, but I'm not sure which problem you are referring to. $\hfill \Box$

Question 2. How do we find the area of a surface if the gradient dotted with p equals zero?

Answer. The first few pages of section 16.5 assume that the surface can by injectively projected onto a plane. So, that would never happen on the interior of the surface.

Later (I hope), we will develop broader techniques to deal with this.	
Question 3. Does life imitate art more than art imitates life?	
Answer. Manifest art reflects life. Life reflects the platonic form of art.	

Question 4. Is it better to go down in infamy than to never go down at all?

Answer. It's better not to go down during a pandemic, all the doctors are busy. \Box

Question 5. Hm, I like the inverting the sphere video, and it seems to me that it sort of relates to our topics. Is there any significant connection between the video and our materials?

Answer. Most of what the video is showing is topological; it does not depend on analysis (Calculus). However, the underlying question of the video insists that the deformation be *differentiable*; differential geometry and differential topology are the natural outgrowth of Thomas Chapter 16.