

Quiz #3 Review sheet!

Penguins from Chile

November 27, 2007

Hi kids! Here is a review sheet for the third quiz, coming up this Thursday, 11/29. Enjoy!

1. Section 6.2: Change of Variables. The quiz will only cover the change of variables theorem with regard to changes variables in 2 dimensions. Of course, you'll need to know how to change variables in 3 dimensions for the final exam, but we covered only half of this section last week, and so this will be what the quiz covers. Corey suggests that you know how to change variables in two main situations (in 2 dimensions). They are as follows. DEFINITELY DEFINITELY DEFINITELY know how to change between rectangular and polar coordinates: $x = r \cos \theta$, $y = r \sin \theta$, and the Jacobian

$$\left| \frac{\partial(x, y)}{\partial(r, \theta)} \right| = r.$$

In general, you would also want to know how to change variables for certain easier situations, such as those found in exercises 2–4, and 8–9. In particular, it's likely that Corey wouldn't give you the transformation for polar coordinates, but expect that you would notice when such a change would be a good idea. In addition, he could simply give you a function T and ask you to preform the change of variables for this given T .

ROCK ON!