

HOMEWORK DUE WEDNESDAY APRIL 16TH

NOTE: If you cannot take the midterm Thursday night, you MUST contact me beforehand with your reason and whether you will take the Wednesday night make-up or the Thursday morning make-up.

1. STEWART

Find the f such that $\mathbf{F} = \nabla f$ for those \mathbf{F} in yesterday's assignment that were conservative.

In particular, this is 17.3: 3,12,13.

2. NOT STEWART

Finish the integral I was using to show the second technique. We did the first two "legs" in class. You should do the third. This will give you a formula in terms of "a," "b," and "c." However, $\langle a, b, c \rangle$ is an arbitrary point such that $f(\langle a, b, c \rangle)$ is equal to the integral we just evaluated [since we set $f(\langle 0, 0, 0 \rangle) = 0$. Thus if we replace a with x , b with y , and c with z , we should get the formula for f . Do this and verify that it matches the f we got using the first technique.