Name: _____

Test Prep — 15.1 (Double Integrals Setup) — Math 126

Participation:

- +1: show written work from 15.1 homework
- +1: participate in this test prep

Ch. 15 Problem Solving Template - Here is my suggested template for how to approach ANY problem in chapter 15. You will come to better understand this over the coming days.

- STEP 1 : Integrand? Find height $z =$?? and write $\iint_D ??\, dA$
- STEP 2 : Draw the region, D, on the xy-plane.
  - Draw any boundary condition involving only x and/or y.
  - Draw any curves that correspond to when the surfaces (i.e. z's) intersect. (*see page 2*)
- STEP 3 : Set up bounds... we will discuss your options 15.1-15.3.
- STEP 4 : Evaluate... this is where you get to review integration.

Okay, try this with your classmates and TA

Spring 2011 - Exam 2 - Dr. Loveless

3(a) Set up and evaluate a double integral to find the volume of the solid that is below the surface $z + 3x^2 - 5y^2 = 12$ and bounded by the planes, $x = 0$, $x = 2$, $y = 0$, $y = 3$, and $z = 0$.

Spring 2019 - Exam 2 - Dr. Loveless

3(a) Find the volume of the solid in the first octant bounded by the parabolic cylinder $z = 12 - 3x^2$ and the plane $y = 3$.

Note: The next problem requires 15.2 to set up the bounds, but see if you can start it and think about how the region is different than the last two examples. No worries about finishing it, just try to start it.

Winter 2016 - Exam 2 - Dr. Loveless (a general region)

3(b) Let D be the region in the first quadrant of the xy-plane bounded by $y = 2x - 1$ and $y^2 = x$. Draw this region and try to label it in terms of y. Set up a double integral for the volume of the solid above this region and below the surface $z = 4x$.

Please open the 15.1 homework and attempt several problems now.