Covered Material and Resources for Part3 (Exam 2 - Exam 3)

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December 16, 2014

1 October 20th - October 27th

Review of double integrals, change of order of integration and Fubini's theorem. Application of double integrals to center of mass and moment of inertia. Triple Integrals. other references:

- Pauls notes: http://tutorial.math.lamar.edu/Classes/CalcII/CenterOfMass.aspx Center of mass for 2d/3d: banach.millersville.edu/~BobBuchanan/math311/Area/main.pdf

2 October 29th - November 5th

Cylindrical and Spherical coordinates. Change of variables from cartesian to cylindrical and spherical coordinates in triple integrals. Change of order of integration in triple integrals (outer bounds numeric, inner bounds depend on outermost variables). Notice that it is often much easier to evaluate triple integrals in a specific coordinate system. See review sheet for examples with change of variables and etc. other references:

- Pauls notes: http://tutorial.math.lamar.edu/Classes/CalcIII/CylindricalCoords.aspx, http://tutorial.math.lamar.edu/Classes/CalcIII/SphericalCoords.aspx

3 November 7th - November 19th

Cylindrical and Spherical coordinates. Change of variables from cartesian to cylindrical and spherical coordinates in triple integrals. Change of order of integration in triple integrals (outer bounds numeric, inner bounds depend on outermost variables). Notice that it is often much easier to evaluate triple integrals in a specific coordinate system. See review sheet for examples with change of variables and etc. other references:

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