Math 18 fall 2010

Homework Set #10

due Thursday November 18, 2010 at noon

extension till Tuesday November 23, 2010 at noon

Topics covered: vector fields, inverse-square fields, conservative fields, ∇, div, curl, line integrals of a scalar function (mass, arc length, surface area), line integrals of a vector field (work), independence of path for conservative fields, relationship between conservative and irrotational fields

Suggested reading[1]**:** Sections 15.1-3 (12.3 optional)

Problems:

Sections	15.1	15.2	12.3	15.3
Problem no.	7,16,20,35,37,43	15,26,29,35,37,46,49	11,36	4,7,12,17,19,32,36

In the first version of this set 12.3.33 was assigned. Please do 12.3.11 instead. From Section 12.3 you need to know only how to compute the arc length of a curve. The arc length is the line integral of the unit function along the curve.

[1] All problems and readings are from H.Anton, I.Bivens and S.Davis, Calculus Multivariable, 9 edition