

PHYSICS 110A, WINTER 2017
ELECTRICITY AND MAGNETISM

Assignment Three, Due Friday, February 2, 5:00 pm.

[1.] Consider a wire of length a and uniform linear charge density λ . Compute the electric field \mathbf{E} along the axis of the wire. Consider both the case when you are evaluating \mathbf{E} at points outside the wire, and for points inside the wire.

[2.] Compute the electric field at the center of a thin circular ring of radius R if the ring is divided into two semicircles (by a thin piece of insulator) and has charge per unit length $+\lambda_1$ on one semicircle and $-\lambda_2$ on the other semicircle.

[3.] Griffiths Problem 5, Chapter 2.

[4.] Griffiths Problem 7, Chapter 2.

[5.] Griffiths Problem 8, Chapter 2.

[6.] Griffiths Problem 9, Chapter 2.

[7.] Griffiths Problem 14, Chapter 2.