

# Homework Problem

## Homework: Coulomb's Law

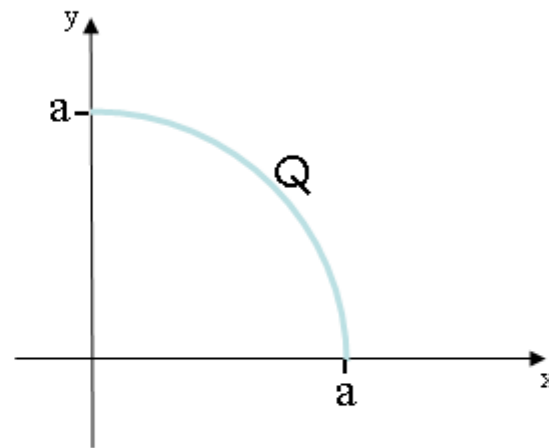
Deadline: 100% until Tuesday, January 22 at 8:00 AM

### Electric Field from Arc of Charge

1 2 3 4 5

A total charge  $Q = -4.2 \mu\text{C}$  is distributed uniformly over a quarter circle arc of radius  $a = 7.7 \text{ cm}$  as shown.

Please try to solve this problem on your own. Only use help if you get stuck, and have thought hard about it for at least 10 minutes!



1) What is  $\lambda$  the linear charge density along the arc?

C/m

2) What is  $E_x$ , the value of the x-component of the electric field at the origin  $(x,y) = (0,0)$ ?

N/C