PHYS 212 In-Class Problem solving
In the figure below, a thin glass rod forms a quarter-circle of radius *r*. Charge, +q is uniformly distributed along the rod.


a. Write down the linear charge density, λ in terms of q, π and r; for the rod. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
b. Show that the magnitude of the electric field at P is given by, $\sqrt{2}\frac{kλ}{r}. $Also, show the direction of the electric field at P in the diagram.

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 c. P25: Figure below shows three circular arcs centered at the origin of a coordinate system. On each arc, the uniformly distributed charge is given in terms of *Q* = 2.00 µC. The radii are given in terms of *R* = 10.0 cm. What are the **(a)** magnitude and **(b)** direction (relative to the positive *x* direction) of the net electric field at the origin due to the arcs?

