

Closed book. No calculators are to be used for this quiz.

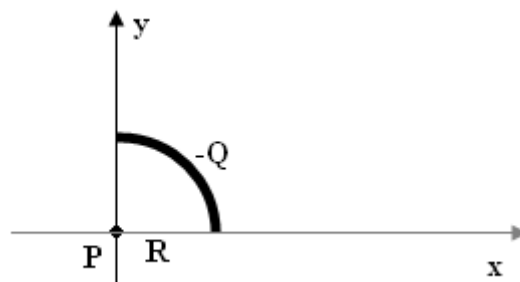
Quiz duration: 15 minutes

Name:

Student ID:

Signature:

Negative electric charge $-Q$ is distributed uniformly around a quarter of a circle of radius R .
What are the components of the electric field E at point P in terms of Q , ϵ_0 and R .



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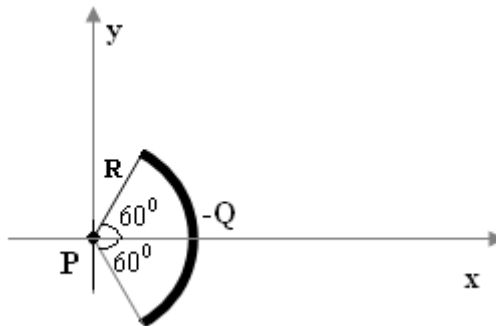
Quiz duration: 15 minutes

Name:

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Signature:

Negative electric charge $-Q$ is distributed uniformly around a 120 degree circular arc of radius R . What are the components of the electric field E at point P in terms of Q , ϵ_0 and R .



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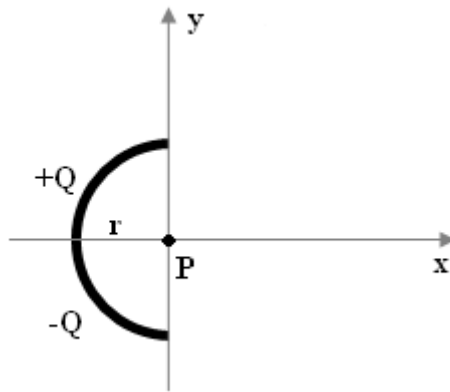
Quiz duration: 15 minutes

Name:

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A thin glass rod is bent into a semicircle of radius r . A charge $+Q$ is uniformly distributed along the upper half, and a charge $-Q$ is uniformly distributed along the lower half. Find the magnitude and direction of the electric field E at point P in terms of Q , ϵ_0 and r .



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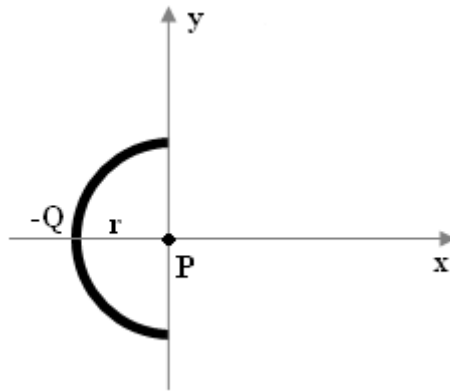
Quiz duration: 15 minutes

Name:

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Negative electric charge $-Q$ is distributed uniformly around a semicircle of radius r . Find the magnitude and direction of the electric field E at point P in terms of Q , ϵ_0 and r .



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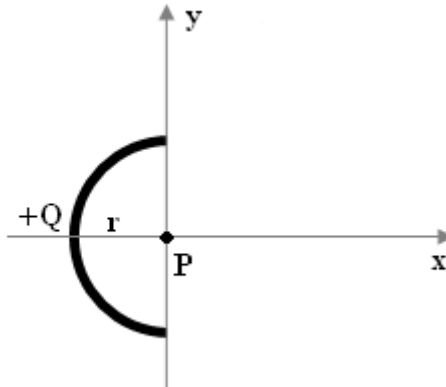
Quiz duration: 15 minutes

Name:

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Positive electric charge $+Q$ is distributed uniformly around a semicircle of radius r . Find the magnitude and direction of the electric field E at point P in terms of Q , ϵ_0 and r .



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Quiz duration: 15 minutes

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A charge with uniform linear charge density $\lambda = 8 \times 10^{-9} \text{ C/m}$ is distributed along the x-axis from $x=0$ to $x=3$ m. Determine the magnitude of the electric field at a point on the x-axis at $x=4$ m.

