

1 Mass Density

Consider a rod of length L lying on the z -axis. Find an algebraic expression for the mass density of the rod if the mass density at $z = 0$ is λ_0 and at $z = L$ is $7\lambda_0$ and you know that the mass density increases

- (a) (2pts) linearly;
- (b) (2pts) like the square of the distance along the rod;
- (c) (2pts) exponentially.