1 Cone Surface

(a) Find dA on the surface of an (open) cone in both cylindrical and spherical coordinates. Hint: Be smart about how you coordinatize the cone.

(b) Using integration, find the surface area of an (open) cone with height H and radius R. Do this problem in both cylindrical and spherical coordinates.

2 Ice Cream Mass

Use integration to find the total mass of the ice cream in a packed cone (both the cone and the hemisphere of ice cream on top).