

- 5 A solid cone with a base:  $x^2 + y^2 \leq \frac{4}{3}, z = 0$  and a vertex  $A(0, 0, 2)$ , a solid cylinder:  $y^2 + z^2 = 1$  are placed in the three dimensional space.  $C$  is the intersection curve of the cone and the cylinder. Find the surface area of the cylinder surrounded by the curve  $C$ . (accepted by the magazine Sep, 1998)

