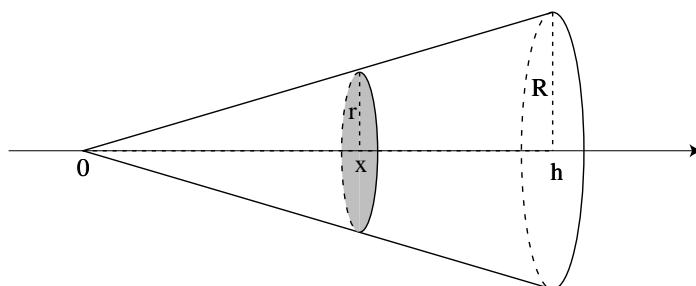


# QUIZ 4

Time: 10min

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1. Find the volume of a right circular cone with base radius  $R$  and height  $h$ .



*Hints:* Follow these steps:

- (i) Let  $r$  be the radius of the cross section at a distance of  $x$  from the vertex.
- (i) Use the similar triangles to write  $r$  in terms of  $x$ ,  $R$ , and  $h$ .
- (ii) Find a function,  $A(x)$ , for the area of each cross section.
- (iii) Integrate  $A(x)$ .

*This problem is worth 10 points.*