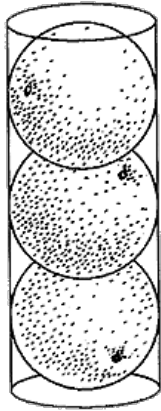


# Three oranges

This task is about working out height, area and volume.



## Useful Information

$$\text{Area of circle} = \pi r^2$$

$$\text{Volume of cylinder} = \text{area of base} \times \text{height}$$

$$\text{Volume of sphere} = \frac{4}{3}\pi r^3$$

$$\text{Use } \pi = 3.14$$

Three oranges (perfect spheres), each with a radius of 4 cm, are packaged one on top of the other in a clear plastic tube for export.

a) What is the height of the tube?  cm

b) What is the area of the lid of the cylinder?   $\text{cm}^2$

c) What is the volume of the empty cylinder?   $\text{cm}^3$

d) What is the volume of one orange?   $\text{cm}^3$

e) What is the volume of air in the cylinder when all 3 oranges are in it?   $\text{cm}^3$

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