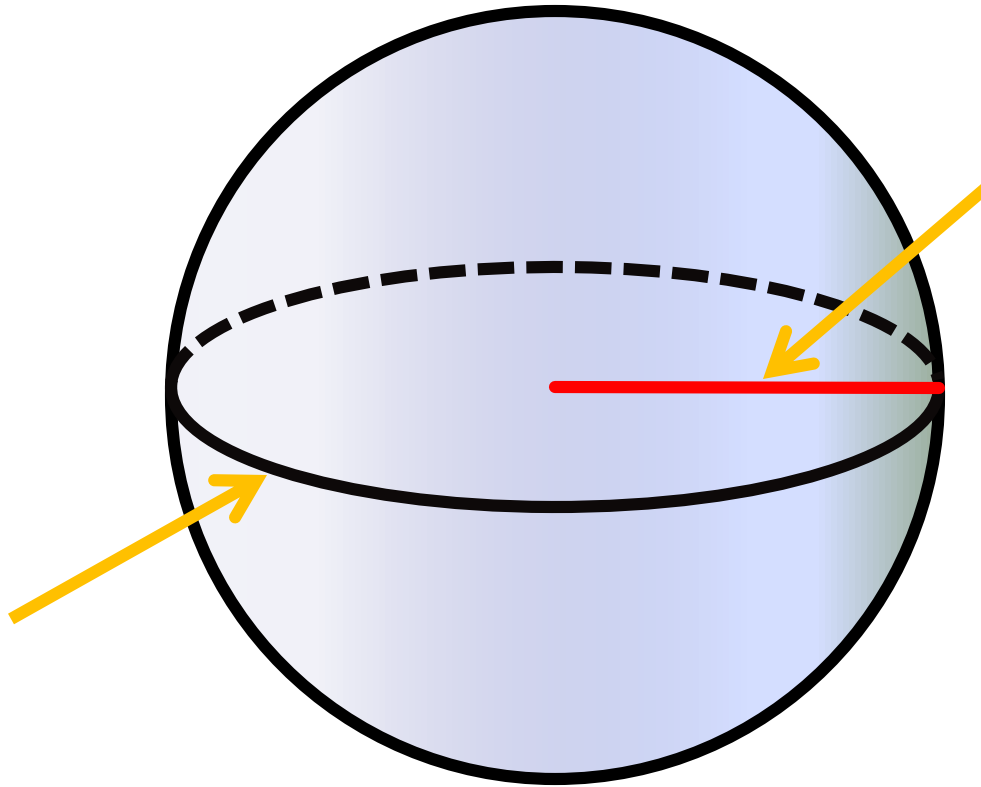


11.6

Surface Area and Volume of Spheres

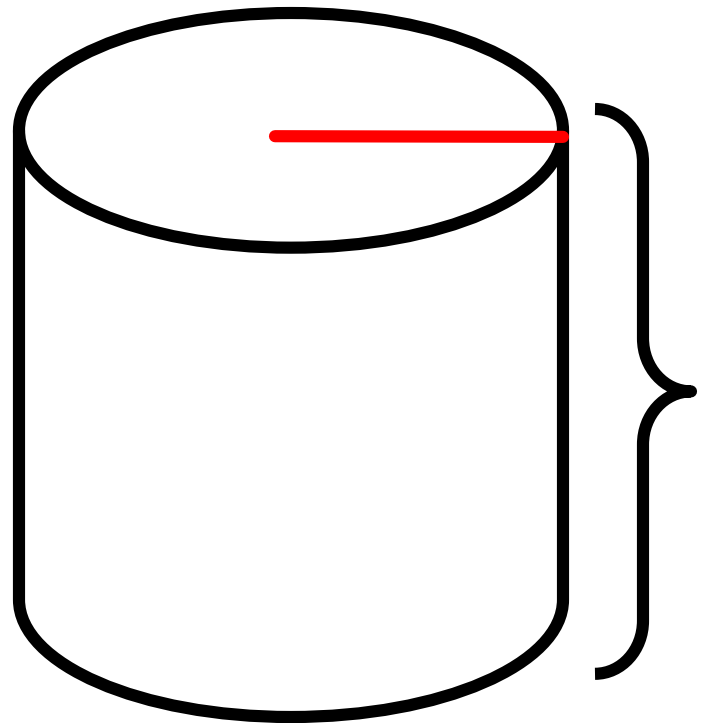
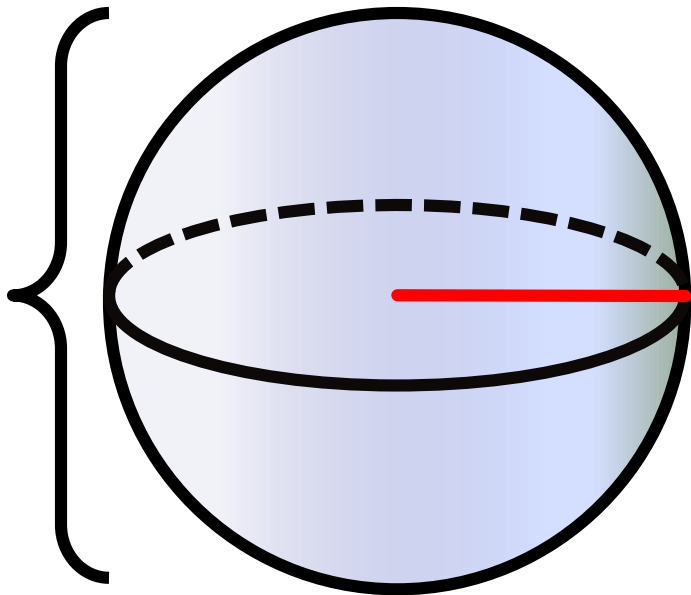
Parts of a Sphere



The _____ of a sphere is the biggest circle that can be drawn on the surface of the sphere itself.

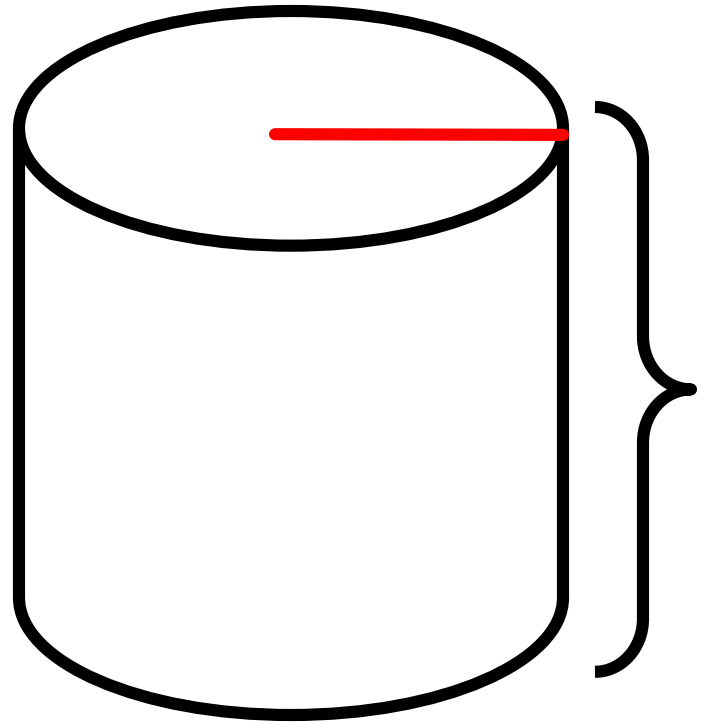
Deriving the formula of a Sphere

In order to derive this formula we first have to see the relationship between a cylinder with similar radius and height.

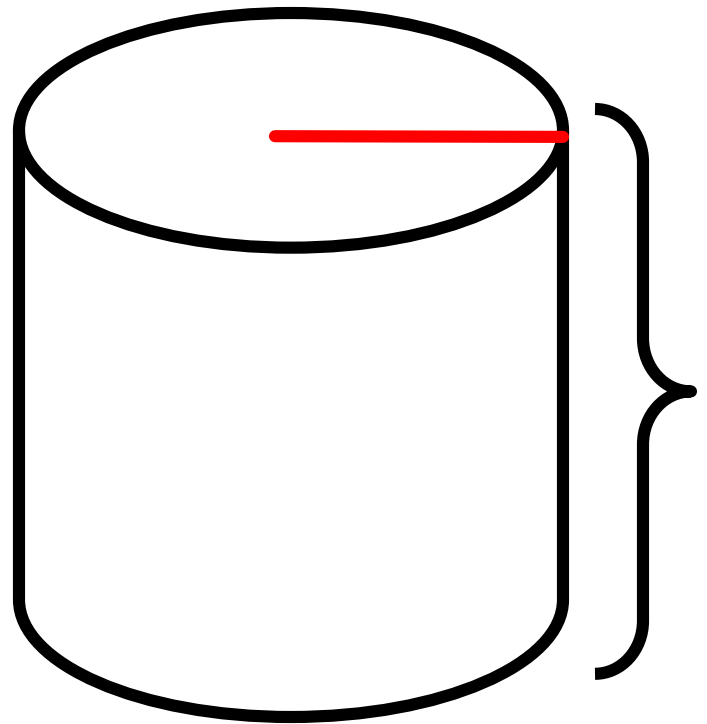
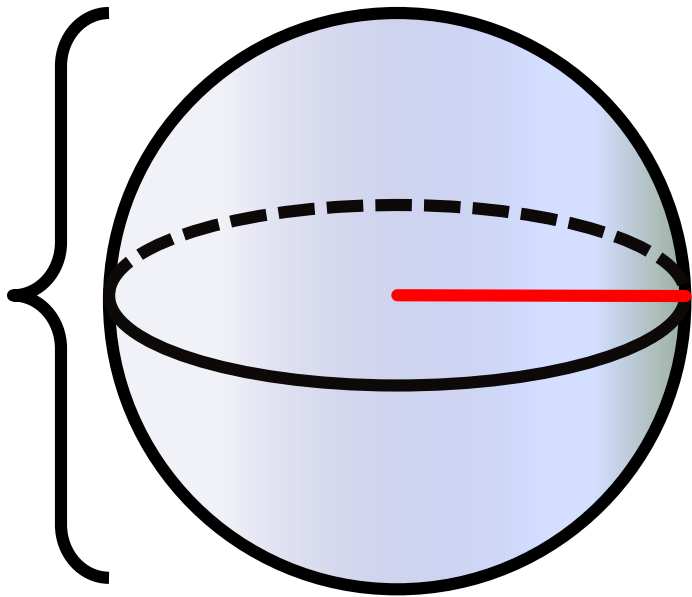


Deriving the formula of a Sphere

What's the volume of the this cylinder in terms of the given variables?



Deriving the formula of a Sphere

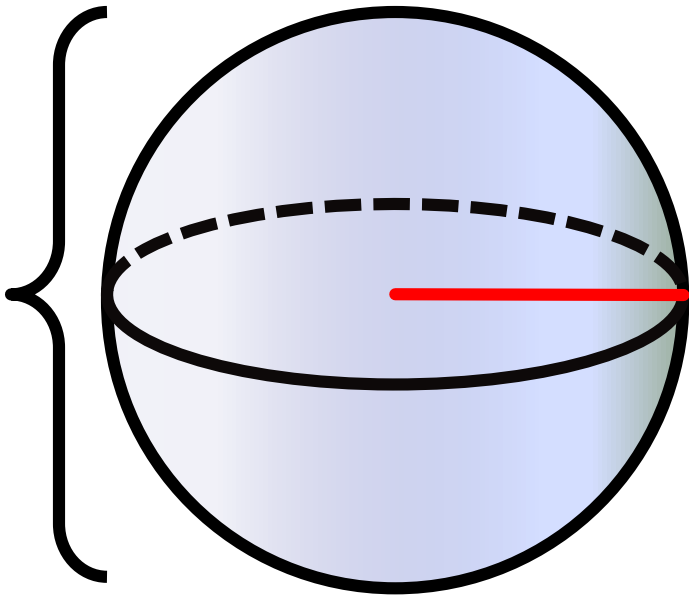


**How much of the
cylinder was filled by
the sphere?**

Deriving the formula of a Sphere

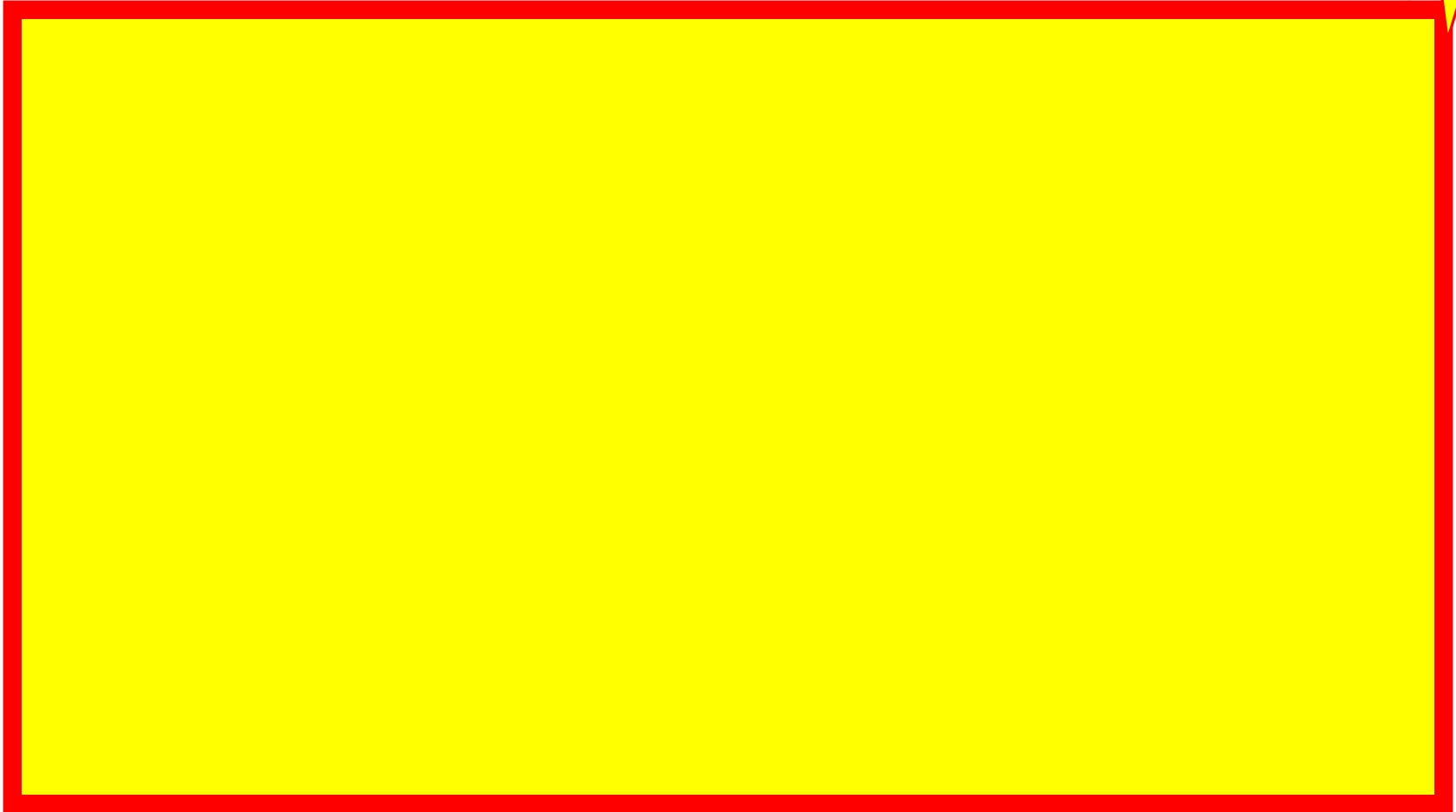
From the video we saw that the sphere would fill will up $2/3$ of the cylinder.

Using some algebra...



Volume Formula for a Sphere

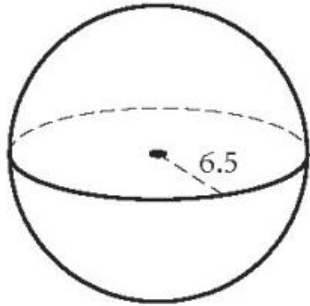
POK



PRACTICE

Find the volume. Round the nearest 0.1.

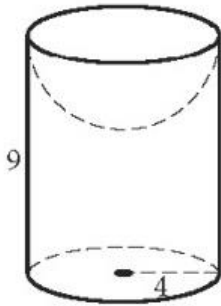
1)



PRACTICE

Find the volume. Round the nearest 0.1.

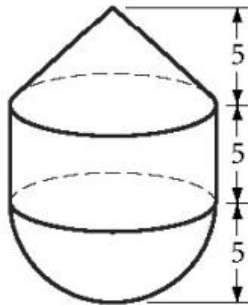
- 2) Cylinder with hemisphere taken out of the top



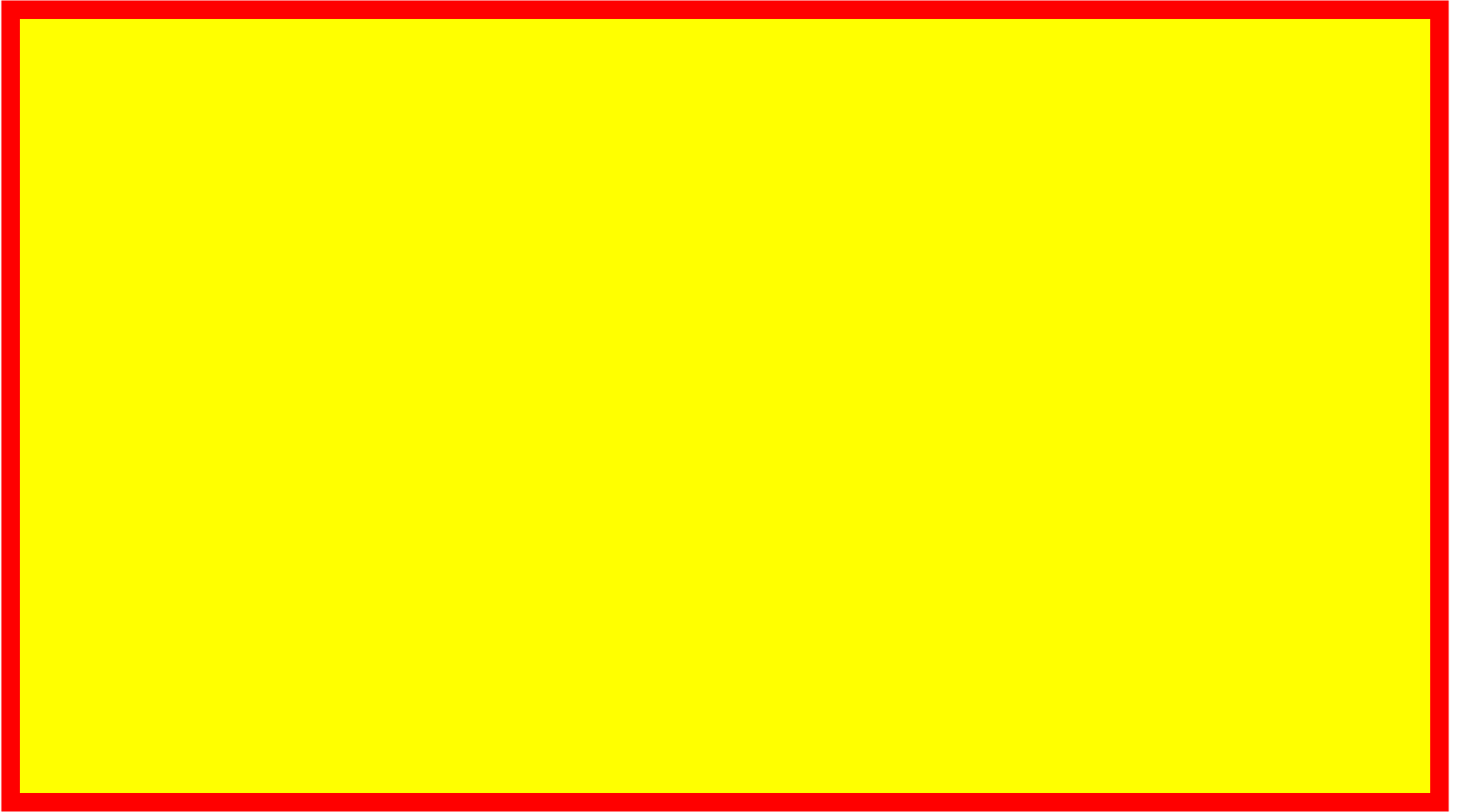
PRACTICE

Find the volume. Exact form.

3)



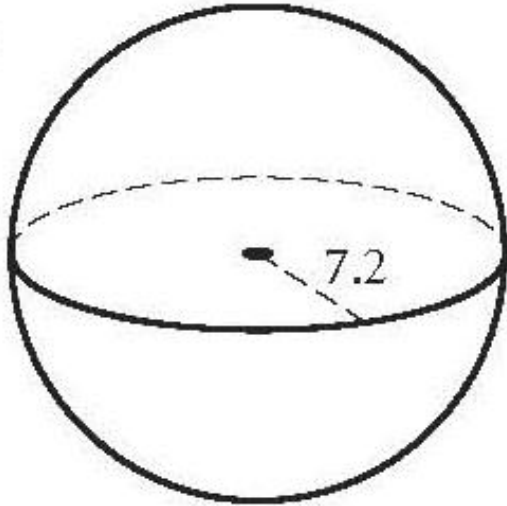
Surface Area Formula for a Sphere



PRACTICE

Find the total surface area. Round the nearest 0.1.

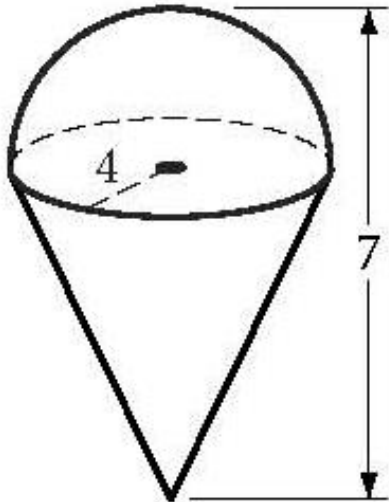
4)



PRACTICE

Find the surface area. Exact form.

5)



PRACTICE

Find the surface area. Exact form.

6)

