

SURFACE AREA AND VOLUME

- ▶ *How are geometric solids used in planetarium design?*

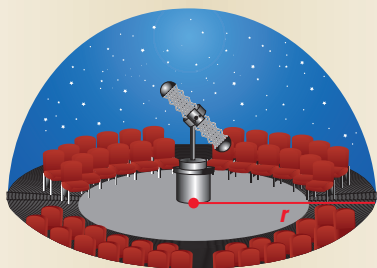


CHAPTER 12

APPLICATION: Spherical Buildings

Planetariums create space shows by projecting images of the moon, stars, and planets onto the interior surface of a dome, or *hemisphere*. The planetarium in these architectural drawings is shaped like a ball, or *sphere*.

When constructing the dome of a planetarium, the builders need to estimate the amount of material needed to cover the interior surface of the dome. The diagram below shows the radius r of the dome of a planetarium.



Think & Discuss

1. Use the formula $2\pi r^2$ to find the amount of material needed to cover the interior of a hemisphere with a radius of 40 feet.
2. Describe any other buildings that are shaped like spheres or hemispheres.

Learn More About It

You will investigate spherical buildings in Exercises 38–40 on p. 764.



APPLICATION LINK Visit www.mcdougallittell.com for more information about spheres in architecture.

