



Review the concept of great circles and the formula for finding the surface area of a sphere.

Demonstrate that the relationship between the radius of a given sphere and the surface area of that sphere is equal to $4\pi r^2$. Obtain a playground ball, a beach ball, or other inexpensive hollow sphere that you can cut. Consider several ways to approximate the surface area.

1. $4\pi \times r^2$ (two great circles)
2. $4\pi \times r^2$ (a quantity of squares)
3. $4\pi \times r$ (4 rectangles)

The difficult part of this problem is to portray a three-dimensional object on a flat surface.

Cut the ball and mount it on poster stock. Write the steps which show the relationships.

Present your display to the class, explaining how your model illustrates the formula. Explain why it is not exact.