Investigate Problem 3

Find the surface area of the ball bearing. Show all your work and use a complete sentence in your answer. Leave your answer in terms of π.

How does the surface area of this ball compare to the surface area of the ball in Question 2? Use a complete sentence in your answer.

Summary

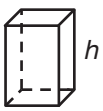
Volume and Surface Area Formulas

In this chapter, you came up with the volume and surface area formulas for common geometric solids:

- Volume and Surface Area of a Prism:

  $V = Bh$

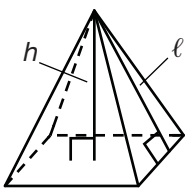
  $S = 2B + Ph$



- Volume and Surface Area of a Pyramid:

  $V = \frac{1}{3}Bh$

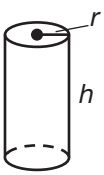
  $S = B + \frac{1}{2}P\ell$



- Volume and Surface Area of a Cylinder:

  $V = \pi r^2 h$

  $S = 2\pi r^2 + 2\pi rh$



- Volume and Surface Area of a Cone:

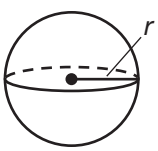
  $V = \frac{1}{3}\pi r^2 h$

  $S = \pi r^2 + \pi r\ell$

- Volume and Surface Area of a Sphere:

  $V = \frac{4}{3}\pi r^3$

  $S = 4\pi r^2$



Take Note

Remember that V represents volume, S represents surface area, B represents the area of a base, P represents the perimeter of a base, ℓ represents slant height, h represents height, and r represents a radius.