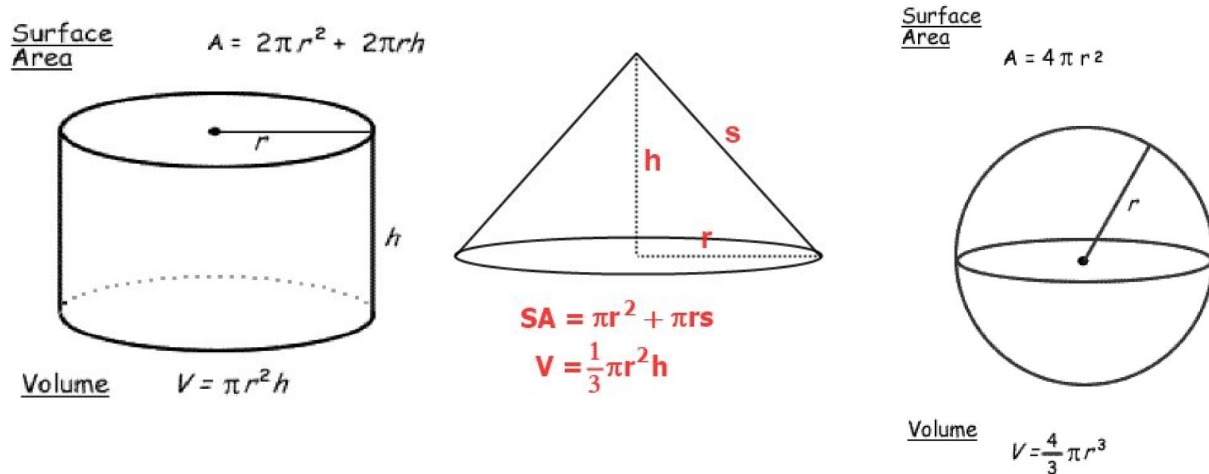


Teaching Notes for Geometry Homework #6

Overview: In this lesson, students will learn about cylinders, cones, and spheres. This lecture is a much-needed break for students.

Preparation: Define surface area and volume, cylinder, cone, and sphere. Provide students with the following formulas and review Pythagorean Theorem and circumference & area of circle formulas as needed. When asking students to find answers approximately, all they need to do is substitute in 3.14 for pi.



Classroom Examples:

- 1) Find (exactly AND approximately) the surface area and volume for a right cylinder with a radius of 7 and a height of 11. $S.A. = 252\pi \approx 791.28, V = 539\pi \approx 1692.46$
- 2) Find (exactly AND approximately) the surface area and volume for a right cone with a radius of 9 and a height of 12. $S.A. = 216\pi \approx 678.24, V = 324\pi \approx 1017.36$
- 3) Find (exactly AND approximately) the surface area and volume for a sphere with a radius of 3. $S.A. = 36\pi \approx 113.04, V = 36\pi \approx 113.04$
- 4) Find (exactly AND approximately) the surface area and volume for a right cylinder with a diameter of 4 and a height of 9. $S.A. = 44\pi \approx 138.16, V = 36\pi \approx 113.04$
- 5) Find (exactly AND approximately) the surface area and volume for a right cone with a diameter of 20 and a slant height of 26. $S.A. = 360\pi \approx 1130.4, V = 800\pi \approx 2512$
- 6) Find (exactly AND approximately) the surface area and volume for a sphere with a diameter of 16. $S.A. = 256\pi \approx 113.04, V = \frac{2048}{3}\pi \approx 2143.57\bar{3}$