SAT Subject Math Level 1 and 2 Given Facts & Formulas

The following five formulas for cones, spheres, and pyramids are given in the beginning of the test booklet, just as shown here. You don't have to memorize them (you have quite a few formulas to know as it is), but you should know how to use them.

Volume of right circular cone with radius r and height h: $V = \dfrac{1}{3}\pi r^2 h$

Lateral area of cone with base circumference c and slant height l: $S = \dfrac{1}{2}cl$

Volume of sphere with radius r: $V = \dfrac{4}{3}\pi r^3$

Surface Area of sphere with radius r: $S = 4\pi r^2$

Volume of pyramid with base area B and height h: $V = \dfrac{1}{3}Bh$

For example, suppose you have a sphere inscribed inside a cube (this means that the sphere just barely touches the center of each face of the cube). If the volume of the sphere is 36π, then what is the volume of the cube? (Note that the volume of a cube is a formula that you *do* have to memorize.) Answer: 216.