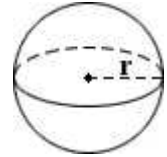


Surface Area Calculation

Surface Area Formulas of Simple Shapes

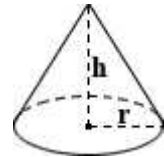
Ball

Surface Area = $4 r^2$
 where r is the radius



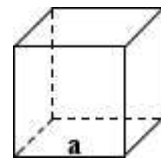
Cone

Base Surface Area = r^2
 Lateral Surface Area = $r r^2+h^2$
 Total Surface Area = $r(r + r^2+h^2)$
 where r is the radius of the base, h is the height



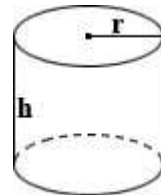
Cube

Surface Area = $6a^2$
 where a is the edge length



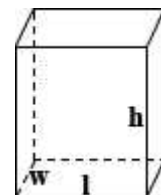
Cylinder

Base Surface Area = $2 r^2$
 Lateral Surface Area = $2 rh$
 Total Surface Area = $2 r(r + h)$
 where r is the radius of the base, h is the height



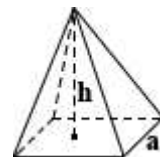
Rectangular

Surface Area = $2ab + 2ac + 2bc$
 where a, b, and c are the length of the three edges



Square Pyramid

Base Surface Area = a^2
 Lateral Surface Area = $2a (a/2)^2 + h^2$
 Total Surface Area = $a^2 + 2a (a/2)^2 + h^2$
 where a is the edge length of the base, h is the height



Homework 1

Given a cube of dimensions 1 ~m x 1 ~m x 1~m, this cube was divided into smaller cubes of 1nm x1 nm x1nm. .

- (a) What is the number of nanosized cubes ?
- (b) Calculate the surface area of the micron and nano sized cubes?
- (c) Apply this procedure to the above-mentioned shapes