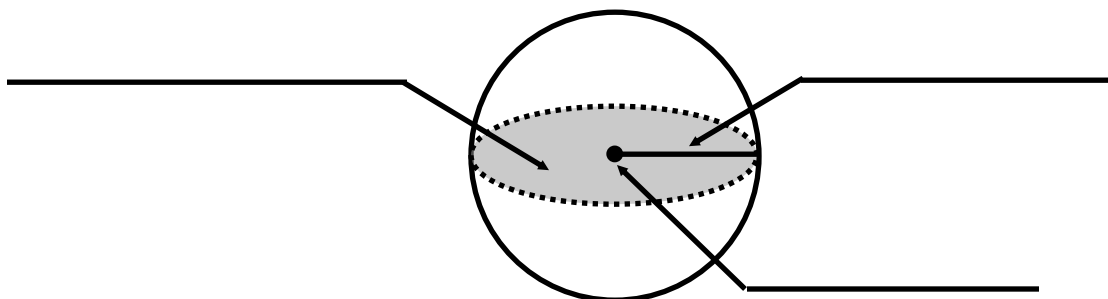


TOPIC 15-1: SURFACE AREA & VOLUME OF SPHERES



SURFACE AREA

	Lateral	Total
Prism	$S = Ph$	$S = Ph + 2B$
Pyramid	$S = \frac{1}{2}Pl$	$S = \frac{1}{2}Pl + B$
Cylinder	$S = 2\pi rh$	$S = 2\pi rh + 2\pi r^2$
Cone	$S = \pi rl$	$S = \pi rl + \pi r^2$
Sphere		$S = 4\pi r^2$

VOLUME

Prism or cylinder	$V = Bh$
Pyramid or cone	$V = \frac{1}{3}Bh$
Sphere	$V = \frac{4}{3}\pi r^3$

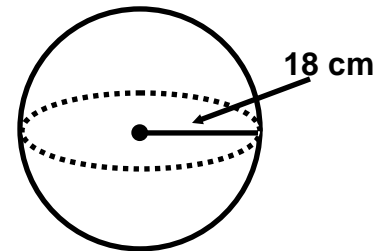
EXAMPLE 1 Find the EXACT Surface Area of a sphere with a radius of 4 cm.

$$r = \underline{\hspace{2cm}}$$

$$\text{Surface Area} = \underline{\hspace{4cm}}$$

EXAMPLE 2 Find the EXACT Volume of the sphere below.

$$r = \underline{\hspace{2cm}}$$



$$V = \underline{\hspace{4cm}}$$

EXAMPLE 3 A sphere has a diameter of 12 cm. Find its Surface Area and Volume to the nearest thousandth.

$$r = \underline{\hspace{2cm}}$$

$$SA = \underline{\hspace{4cm}}$$

$$V = \underline{\hspace{4cm}}$$

EXAMPLE 4 If a sphere has a Surface Area of 36π square units, find its EXACT Volume.

$$r = \underline{\hspace{2cm}}$$

$$V = \underline{\hspace{2cm}}$$

EXAMPLE 5 If the great circle of a sphere has a circumference of 36π units. Find the Surface Area and Volume of the sphere to the nearest thousandth.

$$r = \underline{\hspace{2cm}}$$

$$SA = \underline{\hspace{2cm}}$$

$$V = \underline{\hspace{2cm}}$$

- To take the cube root of a number, press MATH 4. Then enter the number and press enter.

Ex: The cube root of 125= _____

Example 6 If the volume of a sphere is 972π cubic cm. Find the surface area of the sphere.