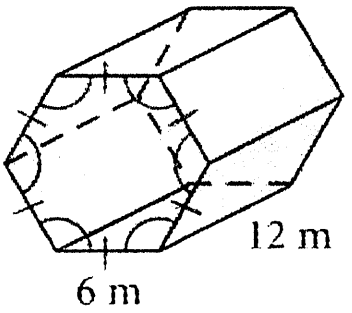
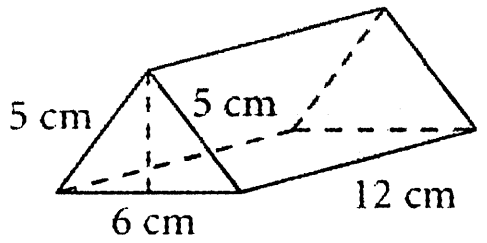
Volume, LA, and SA Extra Practice Name _____

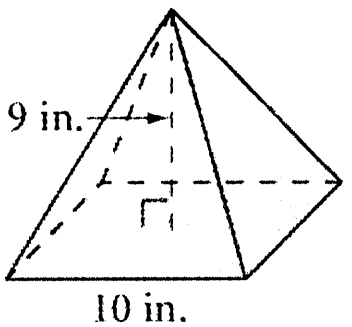
1. Find the surface area of the regular hexagonal prism to the *nearest tenth.* The base has an apothem of $3\sqrt{3}$.



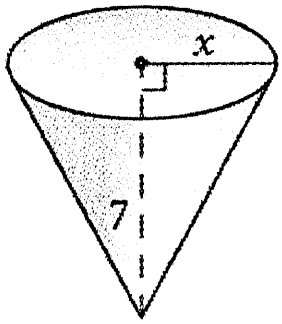
2. Find the Volume of the triangular prism to the *nearest tenth.*



3. Find the Lateral Area of the square pyramid to the *nearest tenth.*



4. The volume of the cone pictured below has a Volume of 112π. If the height of the come is 7, find the radius of the base, x, in simplest radical form.

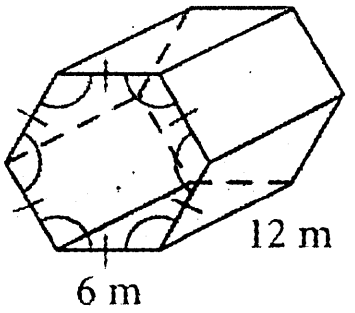


5. A cylindrical carton of oatmeal with radius 3.5 in. is 9 in. tall. If all surfaces except the top are made of cardboard, how much cardboard is used to make the oatmeal carton? Round your answer to the *nearest square inch.*

6. Find the volume of a sphere whose Great Circle has a circumference of 10π to the *nearest tenth.*

Volume, LA, and SA Extra Practice Name Key

1. Find the surface area of the regular hexagonal prism to the *nearest tenth.* The base has an apothem of $3\sqrt{3}$.

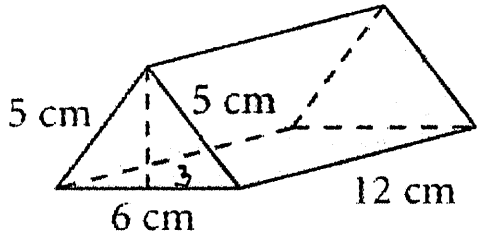


LA = 6 • 12 x 6sides
= 432 m^2

Bases = $\frac{1}{2}ap$
= $\frac{1}{2}(3\sqrt{3})(36)$
= 93.5 m^2 x 2 = 187.1 m^2

TSA = 619.1 m^2

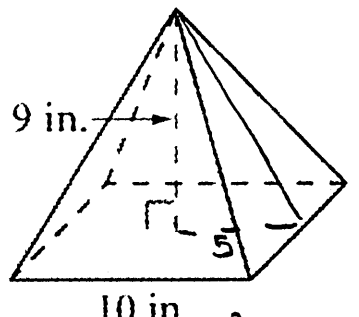
2. Find the Volume of the triangular prism to the *nearest tenth.*



V = (Area base) h
= $\frac{1}{2}(4)(6)(12)$
= 144 cm^3

$a^2 + b^2 = c^2$
$3^2 + b^2 = 5^2$
$9 + b^2 = 25$
$b^2 = 16$ $b = 4$

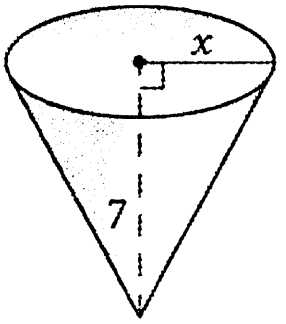
3. Find the Lateral Area of the square pyramid to the *nearest tenth.*



LA = $\frac{1}{2}b \cdot h \cdot 4\Delta s$
= $\frac{1}{2}(10)(\sqrt{106})(4)$
= 205.9 in^2

$a^2 + b^2 = c^2$
$9^2 + 5^2 = c^2$
$106 = c^2$ $\ell = c = \sqrt{106}$

4. The volume of the cone pictured below has a Volume of 112π. If the height of the come is 7, find the radius of the base, x, in simplest radical form.



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

$112\pi = \frac{1}{3}\pi r^2(7)$

$\frac{336\pi}{7\pi} = \frac{\pi r^2(7)}{7\pi}$

$48 = r^2$

$\sqrt{48} = r$

$r = \sqrt{48}$

$r = \sqrt{16}\sqrt{3}$

$r = 4\sqrt{3}$

5. A cylindrical carton of oatmeal with radius 3.5 in. is 9 in. tall. If all surfaces except the top are made of cardboard, how much cardboard is used to make the oatmeal carton? Round your answer to the *nearest square inch.*

$LA = 2\pi rh$

$= 2\pi(3.5)(9)$

$= 197.92 \text{ in}^2$

Area of 1 Base $= \pi r^2$

$= \pi(3.5)^2$

$= 38.48$

$TSA = 236 \text{ in}^2$

6. Find the volume of a sphere whose Great Circle has a circumference of 10π to the *nearest tenth.*

$C = 2\pi r$

$10\pi = 2\pi r$

$5 = r$

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

$V = \frac{4}{3}\pi(5)^3$

$V = 523.6$