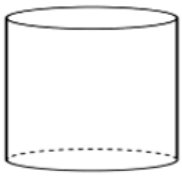
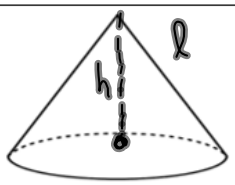
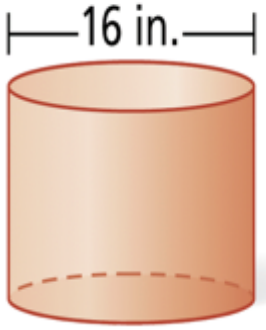
Cylinder circular prism		$2B + Ph$ $2\pi r^2 + 2\pi rh$ B P	Bh $\pi r^2 h$ B
Cone circular pyramid		$B + \frac{1}{2}Pl$ $\pi r^2 + \frac{1}{2}2\pi rl$ *reduced $\pi r^2 + \pi rl$	$\frac{Bh}{3}$ $\frac{\pi r^2 h}{3}$

CYLINDERS AND CONES

Example 1: Find the surface area and volume of the cylinder.



$SA = 2\pi r^2 + 2\pi rh$

$r = 8$

$h = 10$

$2\pi(8)^2 + 2\pi(8)(10)$

$128\pi + 160\pi = \boxed{288\pi \text{ in}^2}$

$V = \pi r^2 h$

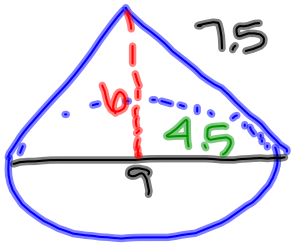
$r = 8$

$h = 10$

$\pi(8)^2(10)$

$\boxed{640\pi \text{ in}^3}$

Example 2: Find the lateral area of a right cone with diameter 9 cm and altitude of 6 cm.



$SA = \cancel{\pi r^2} + \pi r l$

$LA = \pi r l$

$r = 4.5$

$l = 6^2 + 4.5^2$

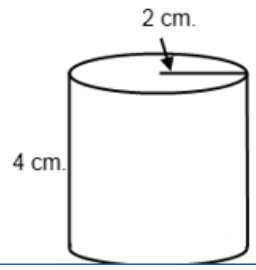
$\sqrt{56.25}$

$= 7.5$

$= \pi (4.5)(7.5)$

$= 33.75\pi \text{ cm}^2$

Example 3: Find the lateral area of the cylinder. Give your answers in terms of π.



$SA = 2\cancel{\pi r^2} + 2\pi r h$

$LA = 2\pi r h$

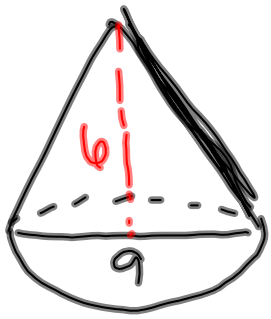
$r = 2$

$h = 4$

$2\pi (2)(4)$

$16\pi \text{ cm}^2$

Example 4: Find the ~~lateral area~~ volume of a right cone with diameter 9 cm and altitude of 6 cm.



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

$r = 4.5$
$h = 6$

$\frac{\pi(4.5)^2(6)}{3}$

$\frac{\pi(20.25)(6)}{3} = 40.5\pi \text{ cm}^3$