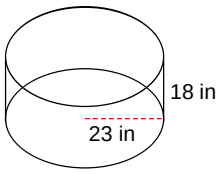
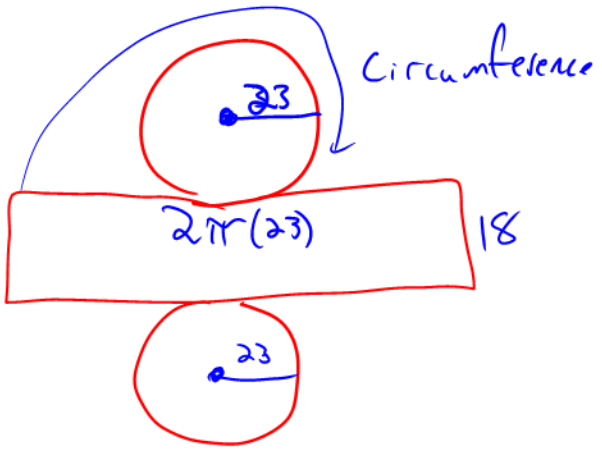
Math 9

Cylinders and Cones

Draw the net, find the surface area, and calculate the volume. Round to the nearest tenth.

1)





$S.A. = 2\pi r^2 + 2\pi rh$

$S.A. = 2(3.14)(\cancel{23^2}\ 529) + 2(3.14)(23)(18)$

$S.A. = 3322.12 + 2599.92$

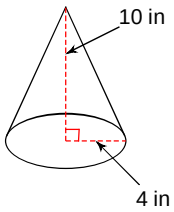
$S.A. = 5922.04\ in^2$

$V = \pi r^2 h$

$V = (3.14)(\cancel{23^2}\ 529)(18)$

$V = 29,899.08\ in^3$

2)



Surface Area needs the slant.
Volume needs the height.

$s^2 = r^2 + h^2$ Pythagorean Theorem!!

$s^2 = 4^2 + 10^2$

$s^2 = 16 + 100$

$s^2 = 116$

$s = \sqrt{116}$

$s = 10.77 \text{ in}$

$S.A. = \pi r^2 + \pi r s$

$S.A. = (3.14)(4)^2 + (3.14)(4)(10.77)$

$S.A. = 50.24 + 135.27$

$S.A. = 185.51 \text{ in}^2$

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

$V = \frac{(3.14)(4)^2(10)}{3}$

$V = \frac{502.4}{3} = 167.5 \text{ in}^3$