

Geometry 1.7 *8th grade standard

Identify and name 3-D figures
Find surface area and volume*

surface area - outside
volume - fill it up
formulas
whiteboards






Quiz tomorrow 1.7

Sep 12-4:24 PM

Prism & Cylinder: Pyramid & Cone: Sphere:

SA = $2 \text{ Base} + \text{perim} \cdot h$ SA = $\text{Base} + \frac{1}{2} \text{perim} \cdot \ell$ SA = $4\pi r^2$


V = $\text{Base} \cdot h$ V = $\frac{1}{3} \text{Base} \cdot h$ V = $\frac{4}{3} \pi r^3$

Key Concept: Surface Area and Volume				
Prism	Regular Pyramid	Cylinder	Cone	Sphere
				
$S = Ph + 2B$	$S = \frac{1}{2}Pl + B$	$S = 2\pi rh + 2\pi r^2$	$S = \pi r\ell + \pi r^2$	$S = 4\pi r^2$
$V = Bh$	$V = \frac{1}{3}Bh$	$V = \pi r^2 h$	$V = \frac{1}{3}\pi r^2 h$	$V = \frac{4}{3}\pi r^3$
S = total surface area	S = total surface area	V = volume	V = volume	V = volume
P = perimeter of the base	B = area of base	h = height of a solid	ℓ = slant height, r = radius	

How many formulas do you want to memorize?

Sep 16-8:00 PM

whiteboards


39. 

$V = \frac{1}{3}(144)(8)$
 $= 384 \text{ in}^3$


$SA = (144) + \frac{1}{2}(48)(10)$
 $144 + 240 = 384 \text{ in}^2$

$6^2 + 8^2 = 10^2$
 $36 + 64 = 100$
 $\sqrt{100} = 10$
 $10 = \ell$

Sep 12-4:27 PM

41. 

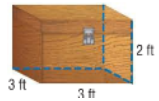
$V = (12)(3)$
 $= 36 \text{ m}^3$



$SA = 2(12) + (16)(3)$
 $24 + 48 = 72 \text{ m}^2$

Sep 12-4:27 PM


42. **BUILDING** Chris is building a trunk like the one shown below. His design is a square prism. What is the volume of the trunk?



$V = (9)(2)$
 18 ft^3

Sep 12-4:28 PM

43. **HOCKEY** A regulation hockey puck is a cylinder made of vulcanized rubber 1 inch thick and 3 inches in diameter. Find the surface area and volume of a hockey puck.

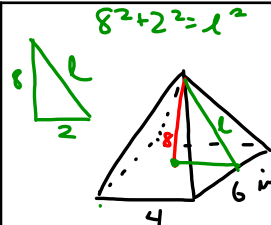


$V = (15^2\pi)(1) = 7.1 \text{ in}^3$

$SA = 2(15^2\pi) + (\pi \cdot 3)(1)$
 $14.13 + 9.42 = 23.6 \text{ in}^2$

Sep 12-4:28 PM

$8^2 + 2^2 = l^2$



$V = \frac{1}{3}(24)(8) = 64 \text{ in}^3$

$SA = (24) + \frac{1}{2}(20)(l)$

$= 24 + 8l$

$= 106 \text{ in}^2$

Sep 16-7:58 PM