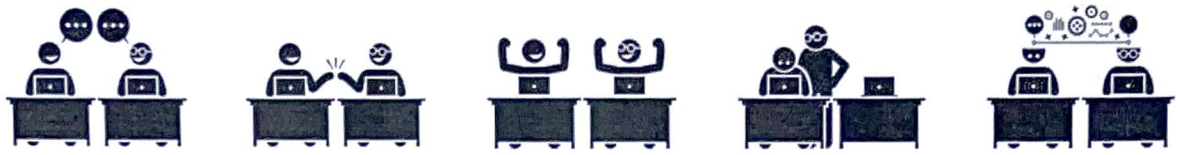
Name: ANSWERS! Class:



VOLUME (V) FORMULAS

cube . . . . . $V = s^3$
(s = length of an edge)

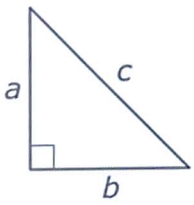
sphere . . . . . $V = \frac{4}{3}\pi r^3$

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

right circular cylinder . . . . . $V = \pi r^2 h$

right prism . . . . . $V = Bh$

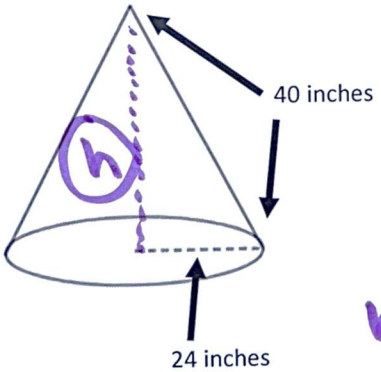
PYTHAGOREAN THEOREM



$a^2 + b^2 = c^2$

Question 01

The slant height of a cone is 40 inches and the radius is 24 inches. What is the volume of the cone (using 3.14 for pi)? Round your answer to the nearest cubic inch.



r = 24

h, 40, 24

$h^2 + 24^2 = 40^2$

$h^2 + 576 = 1600$

$-576 \quad -576$

$h^2 = 1024$

$h = 32$

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

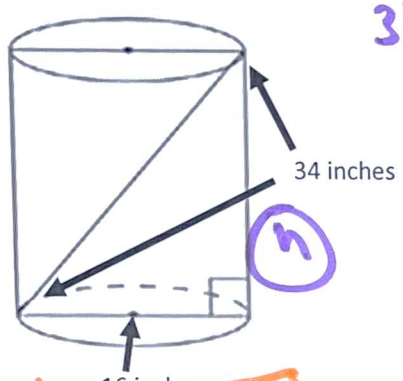
$V = 1 \div 3 \times 3.14 \times 24 \times 24 \times 32$

$V = 19292.16$

$V = 19292$

Question 02

The interior diagonal height of a cylinder 34 inches and the <u>diameter</u> is 16 inches. What is the volume of the cylinder (using 3.14 for pi)? Round your answer to the nearest cubic inch.



$d = 16$ $r = 8$

$34 \triangle h$, 16

$h^2 + 16^2 = 34^2$

$h^2 + 256 = 1156$

$-256 \quad -256$

$h^2 = 900$

$h = 30$

$V = \pi r^2 h$

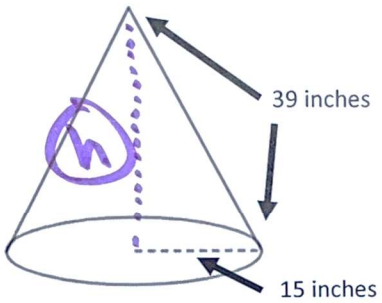
$V = 3.14 \times 8 \times 8 \times 30$

$V = 6028.8$

$V = 6029$

Question 03

The slant height of a cone is 39 inches and the <u>radius</u> is 15 inches. What is the volume of the cone (using 3.14 for pi)? Round your answer to the nearest cubic inch.



$r = 15$

$h \triangle 39$, 15

$h^2 + 15^2 = 39^2$

$h^2 + 225 = 1521$

$-225 \quad -225$

$h^2 = 1296$

$h = 36$

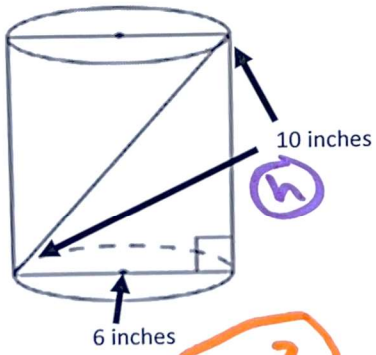
$V = \frac{1}{3} \pi r^2 h$

$V = 1 \div 3 \times 3.14 \times 15 \times 15 \times 36$

$V = 8478$

Question 04

The interior diagonal height of a cylinder 10 inches and the <u>diameter</u> is 6 inches. What is the volume of the cylinder (using 3.14 for pi)? Round your answer to the nearest cubic inch.



$d = 6$ $r = 3$

$10 \triangle h$, 6

$h^2 + 6^2 = 10^2$

$h^2 + 36 = 100$

$-36 \quad -36$

$h^2 = 64$

$h = 8$

$V = \pi r^2 h$

$V = 3.14 \times 3 \times 3 \times 8$

$V = 226.08$

$V = 226$