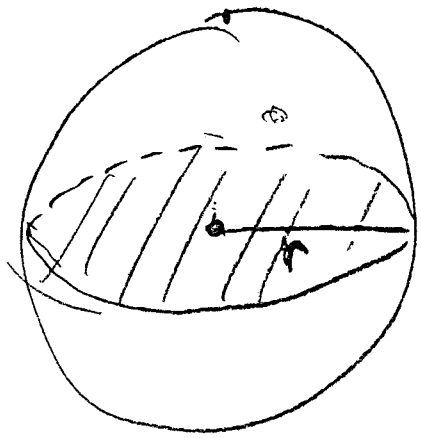
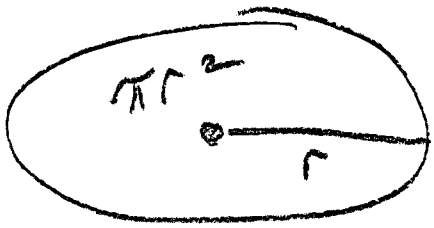
Geometry | Tues. 4-16-13 | Class Notes

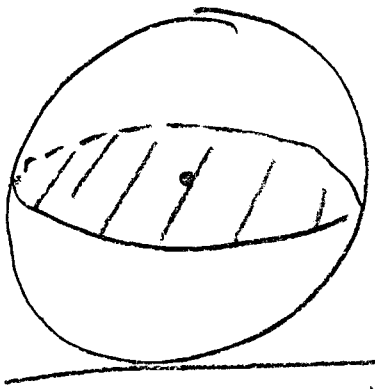
* $S.A._{(sphere)} = 4\pi r^2$

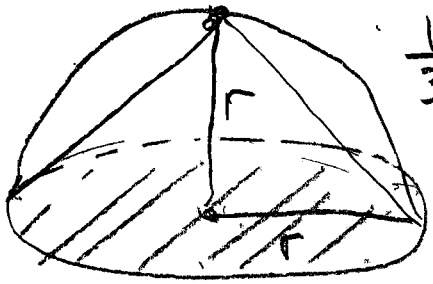




$V_{CONE} = \frac{1}{3}\pi r^2 h$ (h)

$\frac{1}{3}\pi r^3$





* $V_{sphere} = \frac{4}{3}\pi r^3$

Homework Review

② hemisphere

$r = 11$ in $\quad V_0 = \frac{4}{3}\pi r^3$

$V_0 = \frac{4}{3}\pi(11)^3$

$V_0 = \frac{4}{3}\left(\frac{1331}{1}\right)\pi$

$121 \times 11 = 1331$

÷ by 2 → $V_{Hemi} = \frac{\frac{5324}{3}\pi}{2} = \frac{5324}{6}\pi$

$V_{Hemi} = \frac{2662}{3}\pi \text{ in}^3$

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

$\frac{3}{4} \cdot 288\pi = \frac{4}{3}\pi r^3 \cdot \frac{3}{4}$

$216 = r^3$

$6\text{cm} = r$

(5)

grapefruit (hemi)	lime (hemi)
$d = 10\text{cm}$	$d = 5\text{cm}$
$r = 5\text{cm}$	$r = 2.5\text{cm}$
$V_{He} = \frac{1}{2} \cdot \frac{4}{3} \pi r^3$	$V_H = \frac{1}{2} \cdot \frac{4}{3} \pi r^3$
$= \frac{2}{3} \pi (5)^3$	$= \frac{2}{3} \pi \left(\frac{5}{2}\right)^3$
$= \frac{2}{3} \pi 125$	$= \frac{2}{3} \pi \frac{125}{8}$
$V_g = \frac{250}{3} \pi$	$V_L = \frac{125}{12} \pi$

$$\frac{V_g}{V_L} = \frac{\frac{250}{3}\pi}{\frac{125}{12}\pi} = \frac{250}{3} \cdot \frac{12}{125}$$

$$\boxed{\frac{V_g}{V_L} = 8}$$

(6) $S.A. = 4\pi r^2$

$d = 16\ yd$

$r = 8\ yd$

$S.A. = 4\pi(8)^2$

$S.A. = 256\pi\ yd^2$

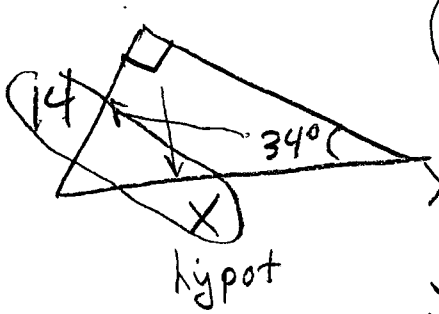
(7) $S.A. = 4\pi r^2$

$A = 49\pi\ cm^2$

$S.A. = 4(49\pi)$

$S.A. = 196\pi\ cm^2$

WS #(32)



SOH CAH TOA

$X \sin 34 = \frac{14}{X} \cdot X$

$\frac{X \sin 34}{\sin 34} = \frac{14}{\sin 34}$

$X = \frac{14}{(.5592)}$

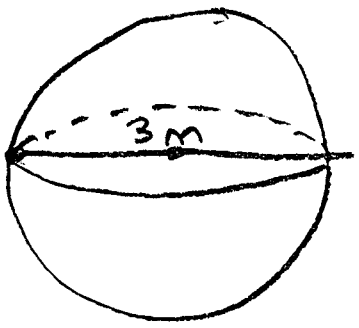
$X = 25.036$

$X = 25.0$

WORKSHEET PRACTICE

Worksheet Practice

WS ⑤



$r = \frac{3}{2}$

S.A. = ?

$S.A. = 4\pi r^2$

$4\pi\left(\frac{3}{2}\right)^2$

$4\pi\frac{9}{4}$

$\boxed{9\pi\ m^2}$

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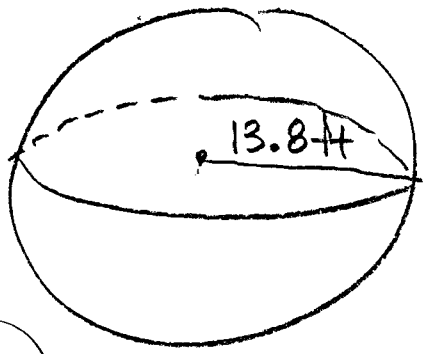
⑨



V = ?

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

$= \frac{4}{3}\pi(13.8)^3$

$= \frac{4}{3}\cdot(13.8)(13.8)(13.8)\pi$

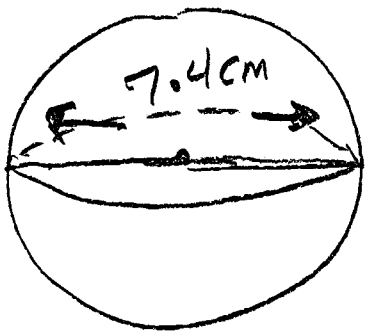
$V = 876.024$

$\boxed{V = 3504.096\ \pi}$

$\boxed{V = 3504.10\ \pi\ ft^3}$

13.8
×1.38
1104
414
138
19044
4.6
15426
76176
876.024

(14)



$V = ?$

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

$r = \frac{7.4}{2}$

$r = 3.7$

$V = \frac{4}{3}(\pi)(3.7)^3$

$V = \frac{4}{3}\pi(50.653)$

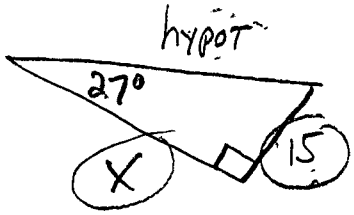
$V = \frac{20.2612}{3}\pi$

$V = 67.537$

$V = 67.54\ \pi cm^3$

3.7
3.7
25 9
11 1
13.69
3.7
95 83
41 07
50.653

(38)



SOH CAH TOA

$$X \tan 27^\circ = \frac{15}{X} \cdot X$$

$$\frac{X \tan 27^\circ}{\tan 27^\circ} = \frac{15}{\tan 27^\circ}$$

SETUP

$.5095_{\wedge} \overline{)15.0000_{\wedge}}$

$$X = \frac{15}{(.5095)}$$

$$X = 29.441$$

$$\boxed{X = 29.44}$$