Math 9 Unit 5: Measurement Name_____

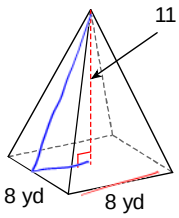
© 2018 Kuta Software LLC. All rights reserved.

Lesson #4 Square Pyramids and Spheres

Date_____

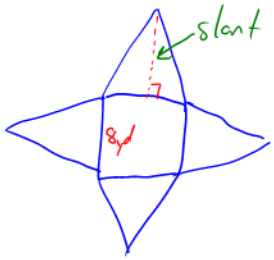
Draw the net, then calculare the surface area and the volume. Round to the nearest tenth.

1)



$b=8$
$h=11$
$s=?$

Net:



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

$\left(\frac{b}{2}\right)^2+h^2=s^2$

$(4)^2+11^2=s^2$

$16+121=s^2$

$\sqrt{137}=\sqrt{s^2}$

$11.7=s$

$S.A.=b^2+4\left(\frac{bs}{2}\right)$

$S.A.=8^2+4\left(\frac{(8)(11.7)}{2}\right)$

$SA=64+187.2$

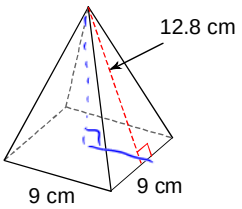
$SA=251.2\ yd^2$

$V=\frac{lwh}{3}$ or $\frac{b^2h}{3}$

$V=\frac{(8)^2(11)}{3}$ (64)

$V=\frac{704}{3}=234.7\ yd^3$

2)



$b=9$
$s=12.8$
$h=?$

① $SA=b^2+4\left(\frac{bs}{2}\right)$

$SA=9^2+4\left(\frac{(9)(12.8)}{2}\right)$

$SA=81+230.4$

$SA=311.4\ cm^2$

② Get h.

$\left(\frac{b}{2}\right)^2+h^2=s^2$

$\left(\frac{9}{2}\right)^2+h^2=12.8^2$

$(4.5)^2+h^2=12.8^2$

$-20.25 \quad -20.25$

$20.25+h^2=163.84$

$\sqrt{h^2}=\sqrt{143.59}$

$h=12\ cm$

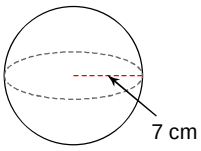
③ $V=\frac{b^2h}{3}$

$V=\frac{(9)^2(12)}{3}$ (81)

$V=324\ cm^3$

© 2018 Kuta Software LLC. All rights reserved. Made with Infinite Pre-Algebra.

3)



$SA = 4\pi r^2$

$SA = 4(3.14)(7^2)$ 49

$SA = 615.44 cm^2$

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

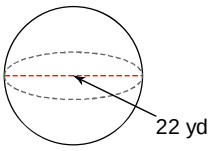
$V = \frac{4(3.14)(7^3)}{3}$ 343

$V = \frac{4308.08}{3}$

$V = 1436.03 cm^3$

---

4)



$r = 11$

$SA = 4\pi r^2$

$SA = 4(3.14)(11^2)$ 121

$SA = 1519.76 yd^2$

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

$V = \frac{4(3.14)(11^3)}{3}$ 1331

$V = \frac{16717.36}{3}$

$V = 5572.45 yd^3$

© 2018 Kuta Software LLC. All rights reserved. Made with Infinite Pre-Algebra.