8.5 Day 2 – Surface Area of Pyramids and Cones-HOMEWORK **Name** Key

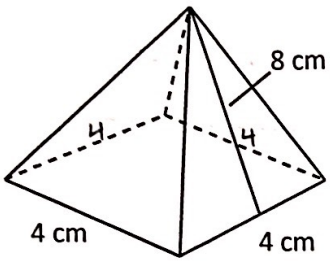
Geometry 3313 **Date**_____ **Period** _____

Learning Targets:

a. I can apply the surface area formulas to solve problems involving pyramids and cones.

Find the lateral area and surface area of the following shapes.

1.



$B = (4)(4) = 16$

LATERAL AREA:

$LA = \frac{P \cdot l}{2}$ $P = 16$, $l = 8$

$LA = \frac{(16)(8)}{2}$

$LA = 64$

SURFACE AREA:

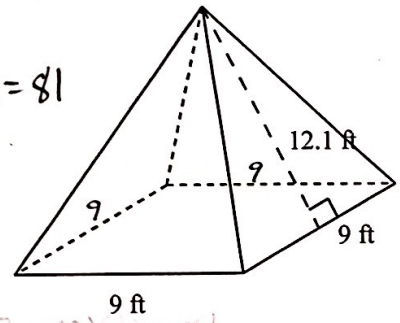
$SA = LA + B$

$SA = 64 + 16$

$SA = 80 \text{ cm}^2$

2.

$B = (9)(9) = 81$



LATERAL AREA:

$LA = \frac{Pl}{2}$ $P = 36$, $l = 12.1$

$LA = \frac{(36)(12.1)}{2}$

$LA = 217.8$

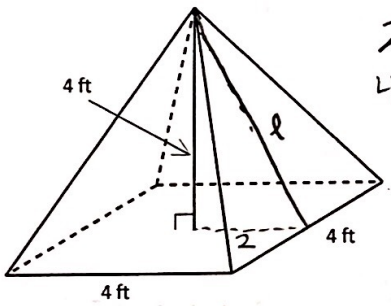
SURFACE AREA:

$SA = LA + B$

$= 217.8 + 81$

$SA = 298.8 \text{ ft}^2$

3. $B = (4)(4) = 16$



$2^2 + 4^2 = l^2$

$4 + 16 = l^2$

$20 = l^2$

$4.5 = l$

LATERAL AREA:

$LA = \frac{P \cdot l}{2}$ $P = 16$

$LA = \frac{(16)(4.5)}{2}$

$LA = 36$

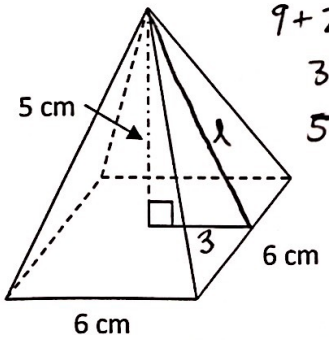
SURFACE AREA:

$SA = LA + B$

$SA = 36 + 16$

$SA = 52 \text{ ft}^2$

4. $B = 36$



$3^2 + 5^2 = l^2$

$9 + 25 = l^2$

$34 = l^2$

$5.8 \approx l$

LATERAL AREA:

$LA = \frac{P \cdot l}{2}$ $P = 24$

$LA = \frac{(24)(5.8)}{2}$

$LA = 69.6$

SURFACE AREA:

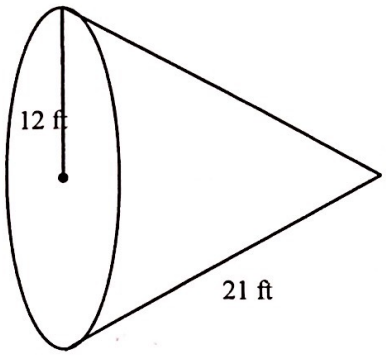
$SA = LA + B$

$= 69.6 + 36$

$SA = 105.6 \text{ cm}^2$

Find the lateral area and surface area.

5.



LATERAL AREA:

$LA = \pi r l$ $\quad r = 12$, $l = 21$

$LA = \pi(12)(21)$

$LA = 252\pi$

SURFACE AREA:

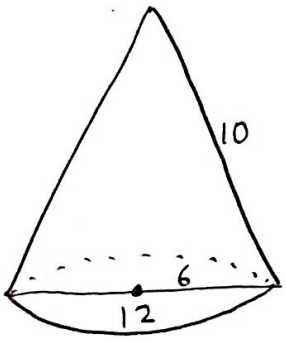
$SA = LA + B$

$= 252\pi + 144\pi$

$SA = 396\pi \text{ ft}^2$

$B = \pi(12)^2 = 144\pi$

6. A cone with a diameter of 12 in and slant height of 10in.



LATERAL AREA:

$LA = \pi r l$ $\quad r = 6$, $l = 10$

$LA = \pi(6)(10)$

$LA = 60\pi$

SURFACE AREA:

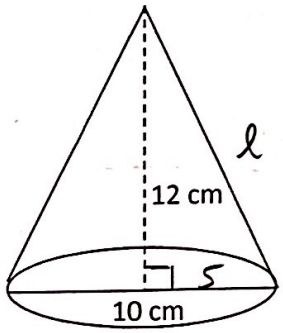
$SA = LA + B$

$= 60\pi + 36\pi$

$SA = 96\pi \text{ in}^2$

$B = \pi(6)^2 = 36\pi$

7.



LATERAL AREA:

$LA = \pi r l$ $\quad l = 13$, $r = 5$

$LA = \pi(5)(13)$

$LA = 65\pi$

SURFACE AREA:

$SA = LA + B$

$= 65\pi + 13\pi$

$SA = 78\pi \text{ cm}^2$

$B = \pi(5)^2 = 25\pi$

$5^2 + 12^2 = l^2$

$25 + 144 = l^2$

$169 = l^2$

$13 = l$