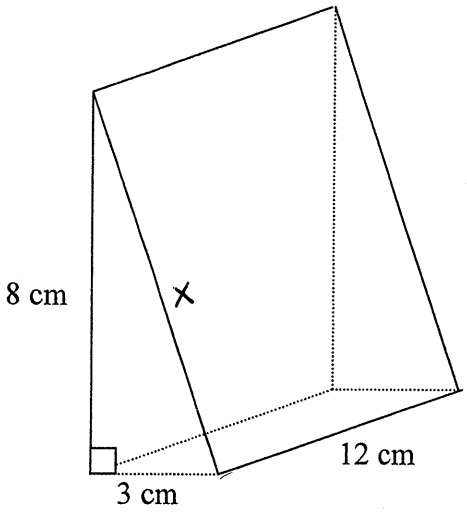
Geometry
Worksheet 12.2

Name Key

Hour _____

Determine the surface area for each of the following figures.

1.) Triangular prism.



$8^2 + 3^2 = x^2$

$64 + 9 = x^2$

$\sqrt{73} = \sqrt{x^2}$

$\sqrt{73} = x$

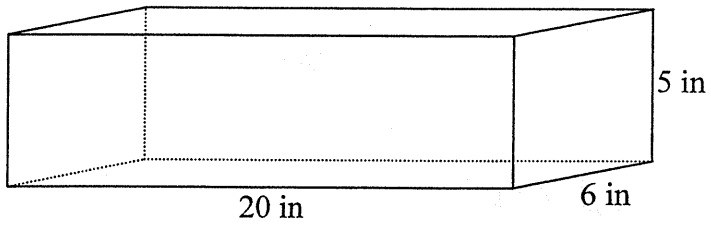
SA = $258.53\ cm^2$

$SA = 2B + hP$

$2(\frac{1}{2} 8 \cdot 3) + 12(11 + \sqrt{73})$

$24 + 234.53$

2.) Rectangular prism.



SA = $500\ in^2$

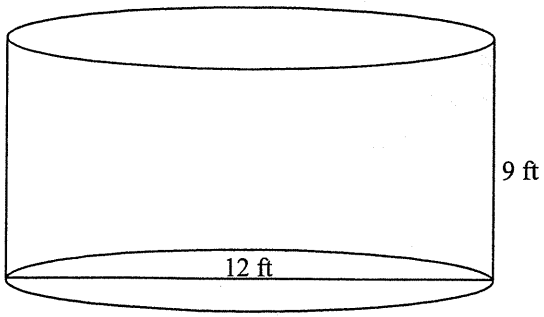
$SA = 2(5 \times 6) + 20(22)$

$60 + 440$

$P = 12 + 10$

$P = 22$

3.) Cylinder.



SA = $565.49\ ft^2$

$SA = 2\pi r^2 + h(2\pi r)$

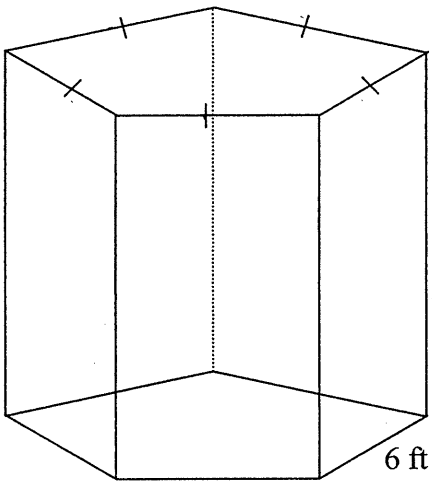
$= 2 \cdot 36\pi + 9 \cdot 12\pi$

$= 72\pi + 108\pi$

$= 180\pi$

$SA \approx 565.49\ ft^2$

4.) Regular pentagonal prism.

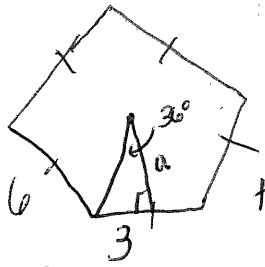


SA = 663.9 ft²

$SA = 2(61.95) + h(30)$

$= 123.9 + 18(30)$

≈ 663.9



$\frac{360}{5} = 72$

$\tan 36 = \frac{3}{a}$

$a = \frac{3}{\tan 36}$

$a \approx 4.13$

$A_{pent} = \frac{4.13(30)}{2}$

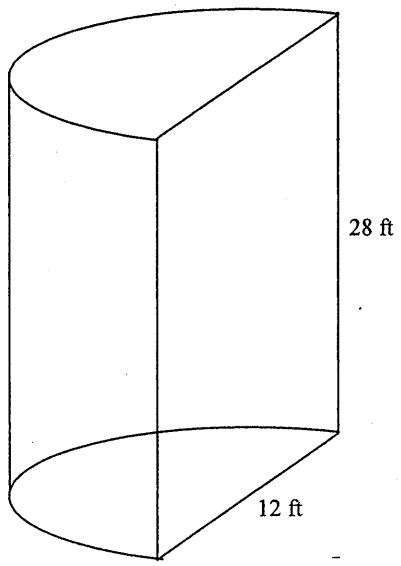
$A = 61.95$

$P = 5 \times 6$

$= 30$

5.) Half of a cylinder.

SA = 640.88 ft²



$SA = \frac{1}{2}(2\pi r^2 + 2\pi r(h))$

$= \frac{1}{2}(2\pi 6^2 + 12\pi(28))$

$= \frac{1}{2}(72\pi + 336\pi)$

$= \frac{1}{2}(408\pi)$

$= 204\pi$

$SA \approx 640.88 \text{ ft}^2$