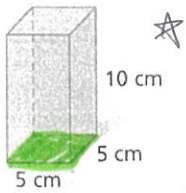
Name: Key Date: Period:

HW #11-7

1. Find the lateral area and the surface area of the right rectangular prism. Exact answers.



*using 5x5 as base

$LA = Ph$

$LA = (4 \cdot 5)(10)$

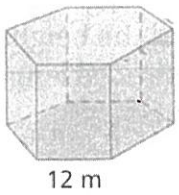
$\boxed{LA = 200 \text{ cm}^2}$

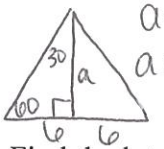
$SA = LA + 2B$

$SA = 200 + 2(5 \cdot 5)$

$\boxed{SA = 250 \text{ cm}^2}$

2. Find the lateral area and the surface area of the right hexagonal prism. Round to two decimal places for each.





$a = 6\sqrt{3}$

$a \approx 10.39$

$LA = Ph$

$LA = (12 \cdot 6)(15)$

$\boxed{LA = 1080 \text{ m}^2}$

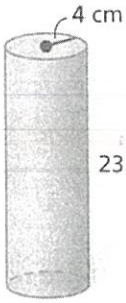
$SA = LA + 2B$

$SA = 1080 + 2\left(\frac{1}{2}(6\sqrt{3})(12)(6)\right)$

$SA = 1080 + 432\sqrt{3}$

$\boxed{SA \approx 1828.25 \text{ m}^2}$

3. Find the lateral area and the surface area of the right cylinder. Exact answers.



$LA = Ph$

$LA = (2)(\pi)(4)(23)$

$\boxed{LA = 184\pi \text{ cm}^2}$

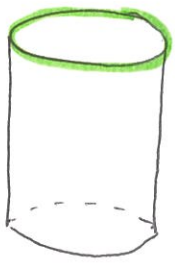
$SA = LA + 2B$

$SA = 184\pi + 2(\pi(4)^2)$

$SA = 184\pi + 32\pi$

$\boxed{SA = 216\pi \text{ cm}^2}$

4. Find the lateral area and the surface area of a right cylinder with base circumference of 16π yd and a height equal to 3 times the radius.



$C = 2\pi r$

$16\pi = 2\pi r$

$r = 8$

$h = 3(r) = 3(8)$

$h = 24$

$LA = Ph$

$LA = (16\pi)(24)$

$\boxed{LA = 384\pi \text{ yd}^2}$

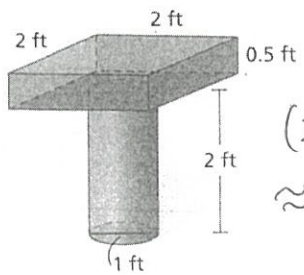
$SA = LA + 2B$

$SA = 384\pi + 2(\pi(8)^2)$

$SA = 384\pi + 128\pi$

$\boxed{SA = 512\pi \text{ yd}^2}$

5. Find the surface area of the composite figure. Round to two decimal places.



(prism − ○) + (LA of ○ + BO)

$(2 \cdot 4)(0.5) + (2)(2 \cdot 2) - \pi(0.5)^2$

≈ 11.21

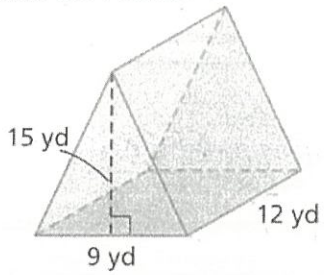
$(2\pi(0.5))(2) + \pi(0.5$

$2\pi + 0.25\pi$

≈ 7.07

$\boxed{\text{total} \approx 18.28 \text{ ft}^2}$

6. Find the volume of the triangular prism. Exact answer.

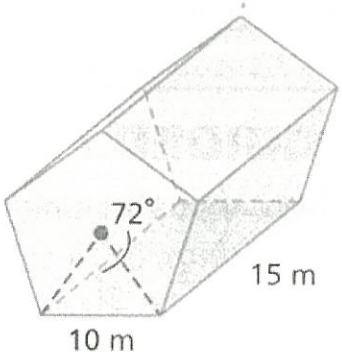


$V = Bh$

$V = \left(\frac{1}{2}(9)(15)\right)(12)$

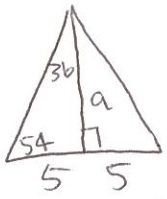
$V = 810\ yd^3$

7. Find the volume of the pentagonal prism. Round to two decimal places.



$V = Bh \rightarrow V = \left(\frac{1}{2}(6.88)(5)(10)\right)(15)$

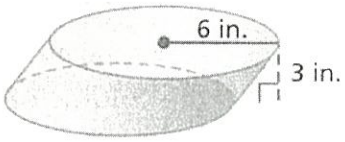
$V \approx 2580.72\ m^3$



$\tan(54) = \frac{a}{5}$

$a \approx 6.88$

8. Find the volume of the cylinder. Exact answer.



$V = Bh$

$V = (\pi(6)^2)(3)$

$V = 108\pi\ in^3$

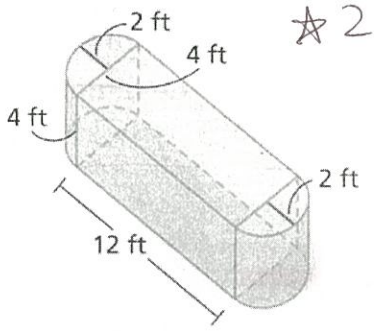
9. Find the volume of a cylinder with base area 24π cm^2 and height 16 cm.

$V = Bh$

$V = (24\pi)(16)$

$V = 384\pi\ cm^3$

10. Find the volume of the composite figure.



★2 ends create a cylinder w/ $r = 2$, $h = 4$

$V = (\text{cylinder}) + (\text{prism})$

$= (\pi(2)^2)(4)$

$= 16\pi$

≈ 50.27

$(4 \cdot 4)(12)$

$= 192$

$\text{total} \approx 242.27\ ft^3$