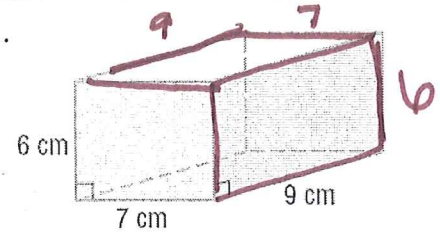
Key

Acc Geometry: Surface Area Practice

The Basics

Directions: Find the surface area of the following figures. Round to the nearest thousandth if needed.

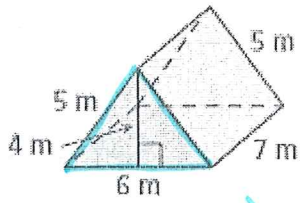
1.



$2(6\times7)+2(6\times9)+2(9\times7)$

$SA = 318\text{cm}^2$

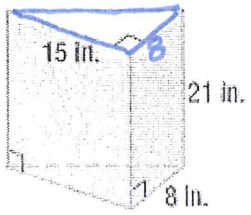
2.



$2(\frac{1}{2}6\cdot4)+2(5\times7)+(6\times7)$

$SA = 136\text{m}^2$

3.



$2(\frac{1}{2}8\cdot15)+8\times21+21\times15+21\times17$

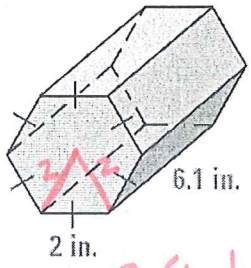
$SA = 960\text{in}^2$

Find x

$15^2+8^2=x^2$

$17\text{ in} = x$

4.



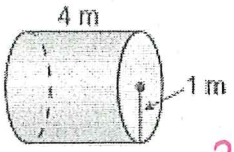
2 Bases: $2(6\cdot\frac{1}{2}2\cdot2\sin(60))$

6 rect: $+\ 6(2\times6.1)$

$SA \approx 93.985\text{in}^2$

Directions: Find the surface area of the following figures. Keep in terms of pi.

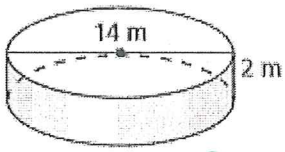
5.



$SA = 2\pi1^2+2\pi1\cdot4$

$SA = 10\pi\text{ m}^2$

6.



$SA = 2\pi7^2+2\pi7\cdot2$

$SA = 126\pi\text{ m}^2$

7.

Find h 1st

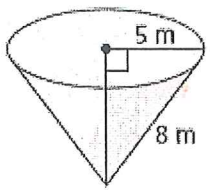
$h^2+8^2=17^2$

$h=15$

$SA = 2\pi4^2+2\pi\cdot4\cdot15$

$SA = 152\pi\text{ in}^2$

8.



$SA = \pi5^2+\pi5\cdot8$

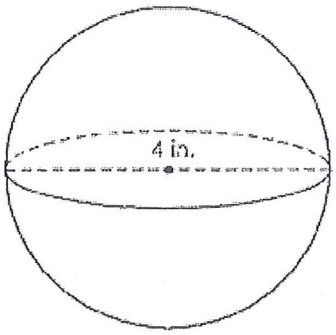
$SA = 65\pi\text{ m}^2$

Directions: *Keep in terms of pi or exact values.*

9. Suppose the surface area of a sphere is 64π square feet. Find the radius.

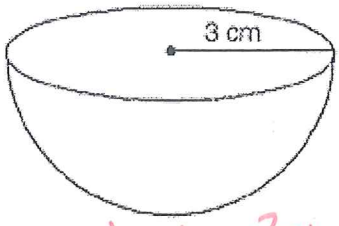
$SA = 4\pi r^2$
$64\pi = 4\pi r^2$
$16 = r^2$
$r = 4$ ft

10.



$SA = 4\pi 2^2$
$SA = 16\pi$ in^2

11.

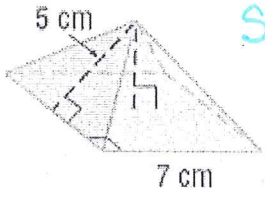


top circle

$SA = \frac{1}{2} 4\pi r^2 + \pi r^2$
$SA = \frac{1}{2} 4\pi 3^2 + \pi 3^2$
$SA = 27\pi$ cm^2

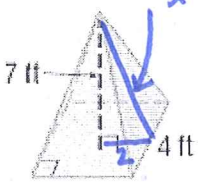
Directions: Find the surface area of the following figures, you may need to find missing parts before you find the SA. Round to the nearest thousandth if needed.

12.



$SA = 7 \times 7$
$4(\frac{1}{2} 7 \cdot 5)$
$SA = 119$ cm^2

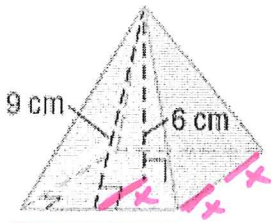
13.



$7^2 + 2^2 = l^2$
$l = \sqrt{53}$ ft

$SA = 4 \cdot 4$
$+ 4(\frac{1}{2} 4 \cdot \sqrt{53})$
$SA \approx 74.241$ ft^2

14.

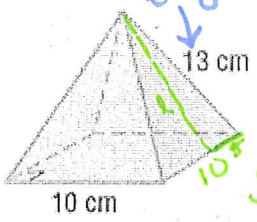


Find x
$6^2 + x^2 = 9^2$
$x = \sqrt{45} = 3\sqrt{5}$

$S = 6\sqrt{5}$
$S = x + x$

$SA = 6\sqrt{5} \cdot 6\sqrt{5}$
$+ 4 \frac{1}{2} 6\sqrt{5} \cdot 9$
$SA \approx 421.495$ cm^2

15.

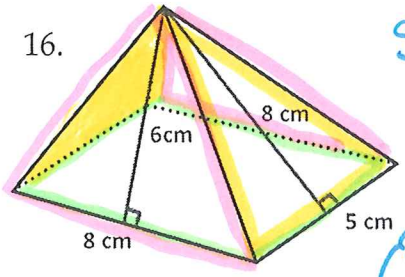


edge ∴

Find l
$5^2 + l^2 = 13^2$
$l = 12$ cm

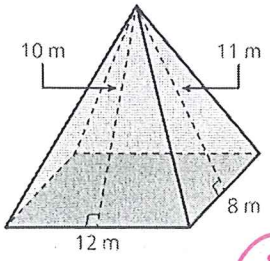
$SA = 10 \cdot 10$
$+ 4(\frac{1}{2} 10 \cdot 12)$
$SA = 340$ cm^2

16.



$SA = 8 \times 5$
$+ 2 \frac{1}{2} 5 \cdot 8$
$+ 2 \frac{1}{2} 8 \cdot 6$
$SA = 128$ cm^2

17.



12×8
$2(\frac{1}{2} 8 \cdot 11)$
$2(\frac{1}{2} 12 \cdot 10)$
$SA = 304$ m^2