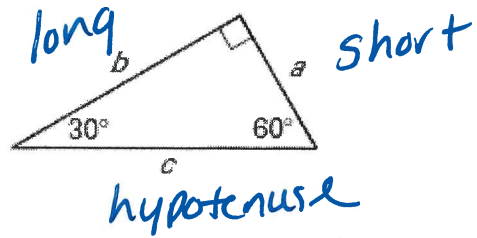
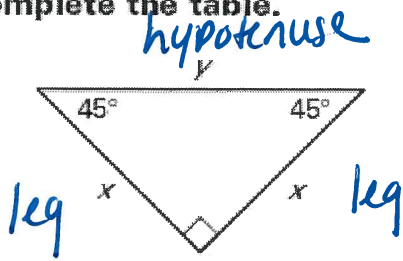


# HOMWORK: GEOMETRY REVIEW

NAME: \_\_\_\_\_ DAY 1 DUE: \_\_\_\_\_

Complete the table.



$x$	5	4	$\sqrt{2}$	9	$12\sqrt{2}$
$y$	$5\sqrt{2}$	$4\sqrt{2}$	2	$9\sqrt{2}$	24

$a$	9	$3\sqrt{3}$	5	11	8
$b$	$9\sqrt{3}$	9	$5\sqrt{3}$	$11\sqrt{3}$	$8\sqrt{3}$
$c$	18	$6\sqrt{3}$	10	22	16

$$\frac{24\sqrt{2}}{\frac{\sqrt{2}\sqrt{2}}{2}}$$

Find the exact area of the shaded region.

3.  $A_s = 5^2 = 32^2 = 1024 \text{ cm}^2$   
 $A_c = 16(\pi 4^2) = 16\pi 16 = 256\pi \text{ cm}^2$   
 Shaded Area =  $1024 - 256\pi \approx 219.75 \text{ cm}^2$

4.  $r = 7$   
 Since half the circle is shaded,  
 $A = \frac{1}{2}\pi r^2 = \frac{1}{2}\pi \cdot 7^2 = \frac{49}{2}\pi \text{ in}^2 \approx 76.97 \text{ in}^2$

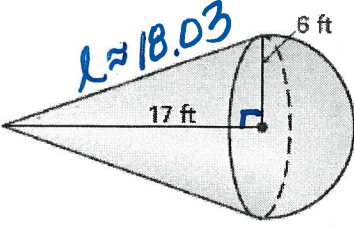
Find the exact volume.

5.  $r = 10$   
 $V_L = \frac{1}{3}\pi r^2 h = \frac{1}{3}\pi (10)^2 (22) \approx 2303.83$   
 $V_S = \frac{1}{3}\pi r^2 h = \frac{1}{3}\pi (4)^2 (8) \approx 134.04$   
 Total Volume = Large - Small  $\approx 963.42 \text{ cm}^3$

6.  $r = 4.5$   
 $V_L = \pi r^2 h = \pi (4.5)^2 (9) = 572.56$   
 $V_S = \pi r^2 h = \pi (2)^2 (9) = 113.10$   
 Total Volume = Large - Small  $= 572.56 - 113.10 = 459.46 \text{ m}^3$

Find the surface area. Round to the thousandths if necessary.

7.



$$6^2 + 17^2 = l^2$$

$$36 + 289 = l^2$$

$$325 = l^2$$

$$18.03 \approx l$$

$$SA = \triangle + \frac{1}{2} \ominus$$

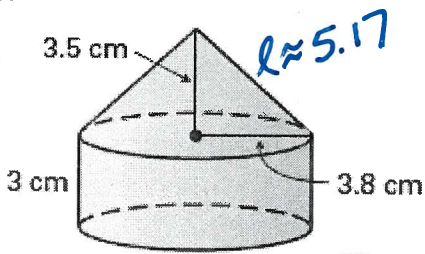
$$= \pi r l + \frac{1}{2} (4\pi r^2)$$

$$= \pi (6)(18.03) + 2\pi (6)^2$$

$$= 108.17\pi + 72\pi$$

$$= \boxed{180.17\pi \text{ ft}^2}$$

8.



$$3.8^2 + 3.5^2 = l^2$$

$$26.69 = l^2$$

$$5.17 \approx l$$

$$SA = \square + \square + \triangle$$

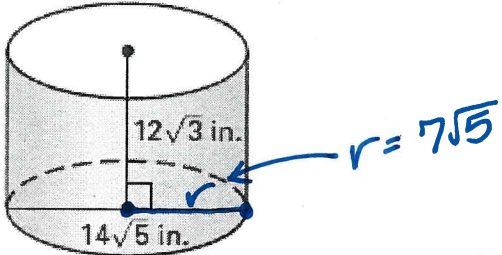
$$= \pi r^2 + 2\pi r h + \pi r l$$

$$= \pi (3.8)^2 + 2\pi (3.8)(3) + \pi (3.8)(5.17)$$

$$= 14.44\pi + 22.8\pi + 19.65\pi$$

$$= \boxed{56.89\pi \text{ cm}^2}$$

9.



$$SA = \cancel{\square} + \circ + \square$$

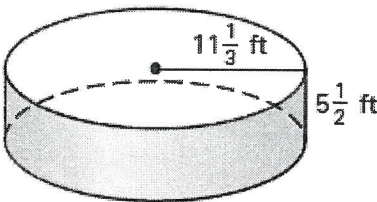
$$= \cancel{\pi r^2} + \pi r^2 + 2\pi r h$$

$$= \pi (7\sqrt{5})^2 + 2\pi (7\sqrt{5})(12\sqrt{3})$$

$$= (49)(5)\pi + 168\sqrt{15}\pi$$

$$= \boxed{895.66\pi \text{ in}^2}$$

10.



$$r = 11\frac{1}{3} = \frac{34}{3}$$

$$h = 5\frac{1}{2} = \frac{11}{2}$$

$$SA = \cancel{\square} + \cancel{\square} + \square$$

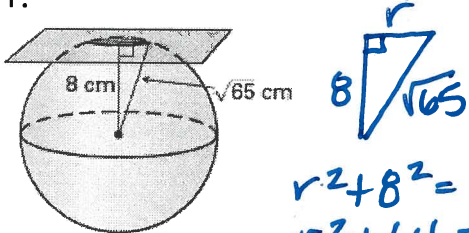
$$= \cancel{\pi r^2} + \cancel{\pi r^2} + 2\pi r h$$

$$= 2\pi \left(\frac{34}{3}\right) \left(\frac{11}{2}\right)$$

$$= \boxed{124.67\pi \text{ ft}^2}$$

Find the area of intersection of the sphere and plane. Write your answer in terms of pi.

11.



$$r^2 + 8^2 = (\sqrt{65})^2$$

$$r^2 + 64 = 65$$

$$\sqrt{r^2} = \sqrt{1}$$

$$r = \pm 1$$

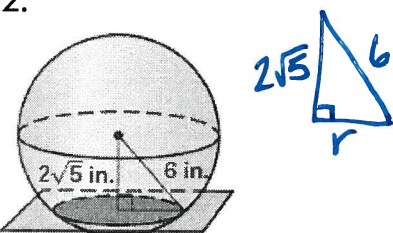
$$r = 1$$

$$A = \pi r^2$$

$$A = \pi (1)^2$$

$$A = \boxed{\pi \text{ cm}^2}$$

12.



$$r^2 + (2\sqrt{5})^2 = 6^2$$

$$r^2 + 4(5) = 36$$

$$r^2 + 20 = 36$$

$$\sqrt{r^2} = \sqrt{16}$$

$$r = \pm 4$$

$$r = 4$$

$$A = \pi r^2$$

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

$$A = \boxed{16\pi \text{ in}^2}$$

13. Find the area of an equilateral triangle with side lengths of  $3\sqrt{2}$  in.

$$S = 3\sqrt{2}$$

$$A = \frac{S^2\sqrt{3}}{4}$$

$$A = \frac{(3\sqrt{2})^2\sqrt{3}}{4}$$

$$A = \frac{9(2)\sqrt{3}}{4}$$

$$A = \boxed{\frac{9\sqrt{3}}{2} \text{ in}^2}$$