Name_____

Geometry - Chapter 9 Review

1. List the area formulas for the following (Drawing a sketch would help memorize these)

   Rectangle =

   Parallelogram =

   Triangle =

   Trapezoid =

   Regular Polygon =

   Circle =

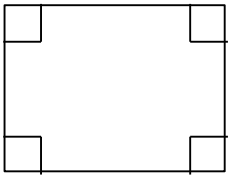
   Annulus =

   Sector =

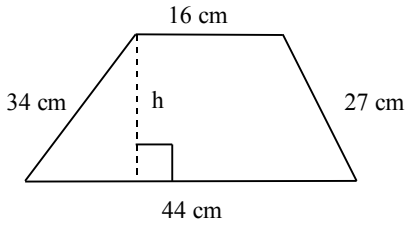
   Segment =

   Cylinder =

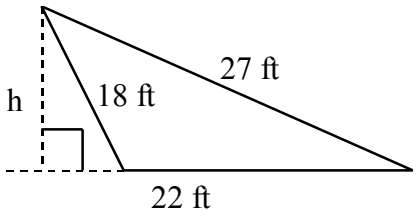
2. The figure is a rectangle with perimeter 126 m. What is the area?



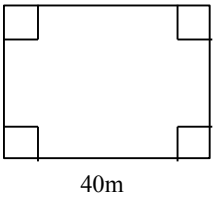
3. The area is 570 cm^2. What is the height?



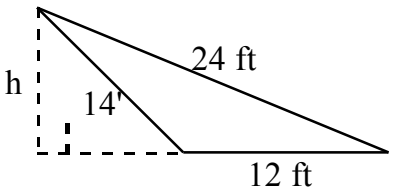
4. The area of the obtuse triangle is 165 sq. ft. What is the length of the height h?



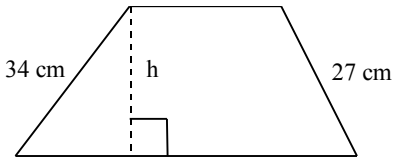
5. The figure is a rectangle with area 1000 sq. meters. What is the width?



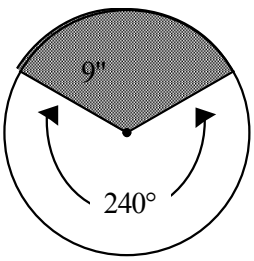
6. The area of the obtuse triangle is 60 sq. ft. What is the height h?



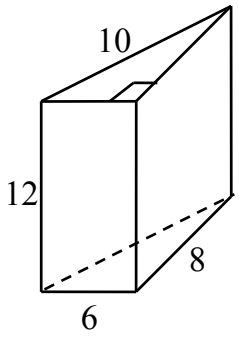
7. The perimeter is 127 cm and the area is 759 cm^2. What is the height h?



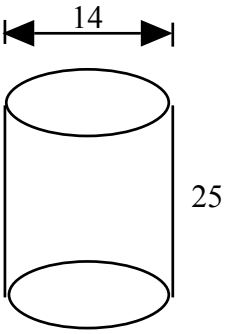
8. Find the area of the shaded sector shown for a circle whose radius is 9". (Exact value)



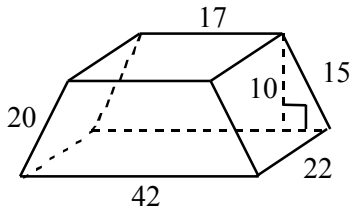
9. Find the surface area of the prism.



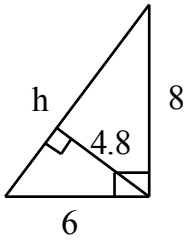
10. Find the surface area of the cylinder.



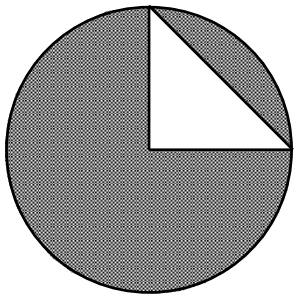
11. Find the total surface area of the trapezoid prism.



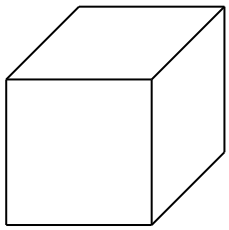
12. Find the length of the hypotenuse h without using the Pythagorean theorem.



13. The radius of the circle below is 6 cm. What is the area of the shaded region. The central angle has measure of 90°? (Exact value)

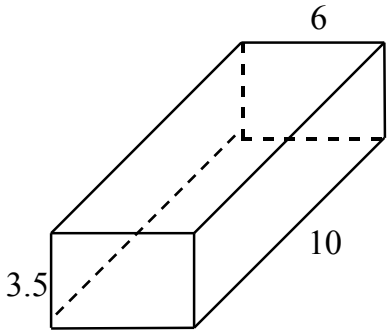


14. What is the total surface area of a cube with sides of length 5 inches

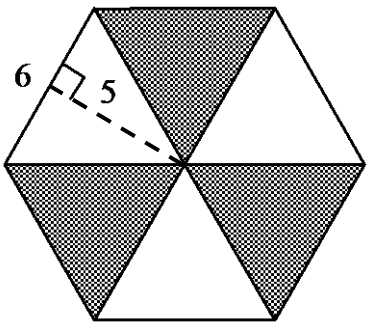


15. If a bedroom is 9 feet by 10 feet and carpet costs $ 28.00 <u>per square yard</u>, what will it cost to buy carpet for the bedroom floor?

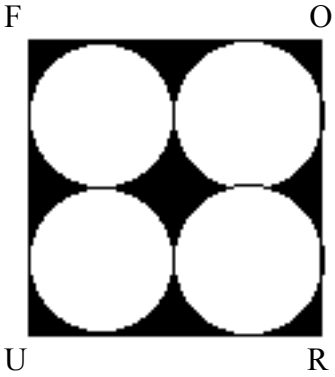
16. What is the total surface area of a rectangular room's four walls and ceiling with dimensions of 6 meters by 10 meters by 3.5 meters high? Ignore **floor**.



17. Find shaded areas for the regular hexagon with sides of length 6 cm and apothem 5 cm.

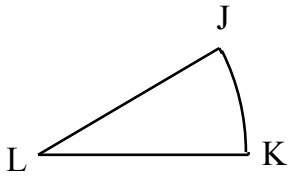


18. FOUR is a square. The side of the square is 28 cm. long. Use 22/7 for π find the area of the shaded region.

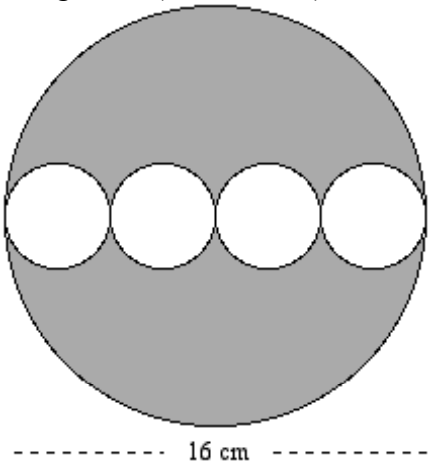


19. The radius of the sector is 4 cm. and its area is $\frac{64}{45}\pi$ cm^2.

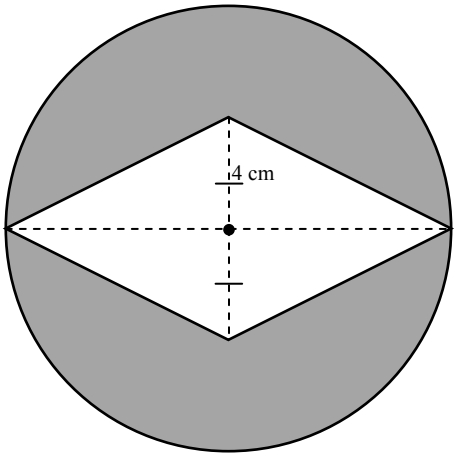
Angle JLK =



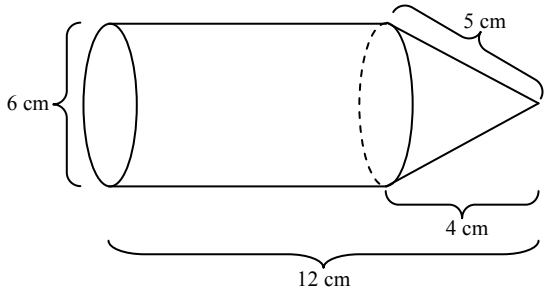
20. Find the shaded area. The diameter of the big circle is 16 cm. All of the smaller circles are congruent. (Exact value)



21. The circumference of the circle is 47.1 cm. Find the shaded area. Use 3.14 for pi.



22. Find the total surface area of the following shape. (Exact form)



Chapter 9 Test Review Answers

1. (Look at notes)

2. $126 = 2(40 + w)$
$63 = 40 + w$
$w = 23$
area $= 40(23) =$ 920 sq. meters

3. $\frac{1}{2}h(16 + 44) = 570$
$30h = 570$
$h = 19$ cm.

4. $\frac{1}{2}h(22) = 165$
$11h = 165$ $h = 15$ ft.

5. $40w = 1000$ $w = 25$ meters

6. $\frac{12h}{2} = 60$ ft $h = 10$ feet

7. $b_1 + b_2 + 34 + 27 = 127$
$b_1 + b_2 = 66$
$\frac{1}{2}h(b_1 + b_2) = 759$
$\frac{1}{2}h(66) = 759$ $h = 23$ cm

8. $\frac{120}{360}\pi(9)^2 =$ 27π sq. inches

9. $2(\frac{6x8}{2}) + (6 + 8 + 10) \times 12 =$
$48 + 288 =$ 336 square units

10. $2\pi(7)^2 + 25\pi(14) =$
$98\pi + 350\pi =$ 448π square units

11. $2[10(\frac{17+42}{2})] + 22(15 + 17 + 20 + 42)$
$590 + 22(94) =$ 2658 sq. units

12. $\frac{6 \times 8}{2} = \frac{4.8h}{2}$ $h = 10$

13. $\pi(6^2) - \frac{6x6}{2} =$ 36π – 18 sq. cm.

14. $6 \times (5^2) =$ 150 sq inches

15. sq. yds x cost/yd. =
$(\frac{9x10}{9}) \times \$28 =$ $280

16. $60 + 32(3.5) = 60 + 112 =$ 172 sq meters

17. area $= \frac{1}{2}(\frac{1}{2}aP) = \frac{1}{4}(5)(36) =$ 45 sq cm.

18. $28^2 - 4 \times \frac{22}{7} \times 7^2 =$ 168 sq. cm.

19. $\frac{n°}{360}\pi(4)^2 = \frac{64}{45}\pi$
$\frac{n°}{360}(16) = \frac{64}{45}$ $n = 32°$ = m ∠ JLK

20. Area $= \pi(8)^2 - 4[\pi(2)^2] =$ 48π sq cm.

21. Area $= 3.14(7.5)^2 - \frac{1}{2}[8(15)]$
$=$ 116.625 sq cm.

22. Area $= \pi(3)^2 + \pi(6)(8) + \pi(3)(5)$
$=$ 72π sq cm.