



Name \_\_\_\_\_

January 23, 2012

## 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 =

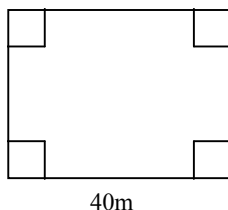
Annulus =

Sector =

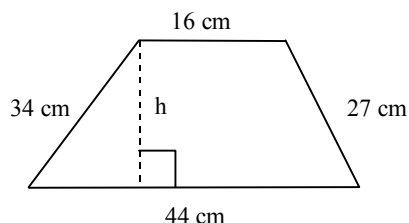
Segment =

Cylinder =

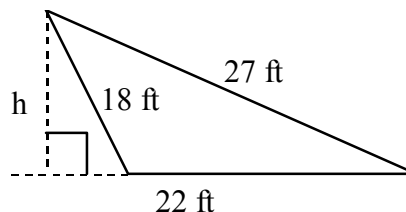
2. The figure is a rectangle with perimeter 126 m. What is the area?



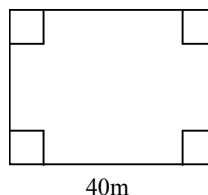
3. The area is  $570 \text{ cm}^2$ . What is the height?



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

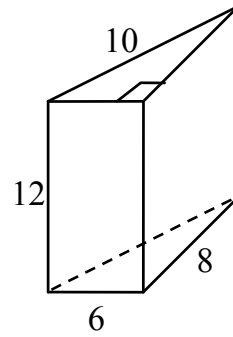
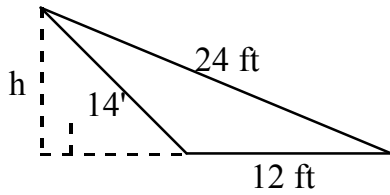


5. The figure is a rectangle with area 1000 sq. meters. What is the width?

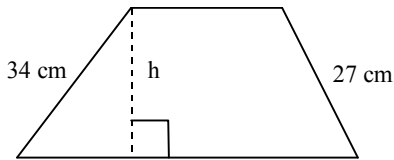


6. The area of the obtuse triangle is

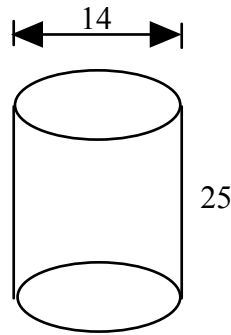
60 sq. ft. What is the height  $h$ ?



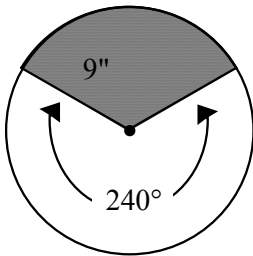
7. The perimeter is 127 cm and the area is  $759 \text{ cm}^2$ . What is the height  $h$ ?



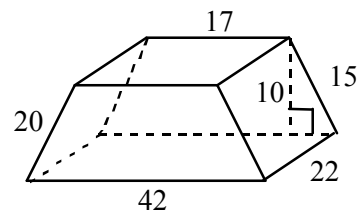
10. Find the surface area of the cylinder.



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

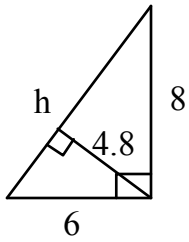


11. Find the total surface area of the trapezoid prism.



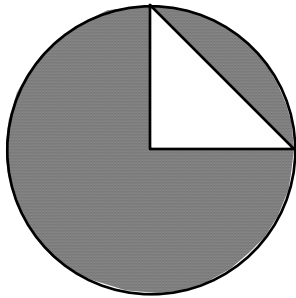
9. Find the surface area of the prism.

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

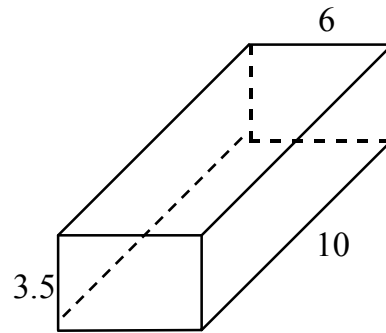


15. If a bedroom is 9 feet by 10 feet and carpet costs \$ 28.00 per square yard, what will it cost to buy carpet for the bedroom floor?

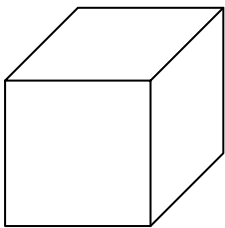
13. The radius of the circle below is 6 cm. What is the area of the shaded region. The central angle has measure of  $90^\circ$ ? (Exact value)



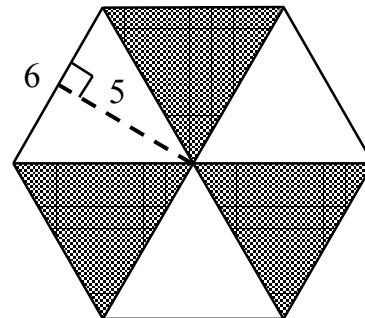
16. What is the total surface area of a rectangular room's four walls and ceiling with dimensions of 6 meters by 10 meters by 3.5 meters high? Ignore **floor**.



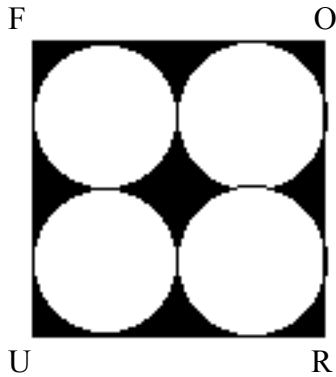
14. What is the total surface area of a cube with sides of length 5 inches



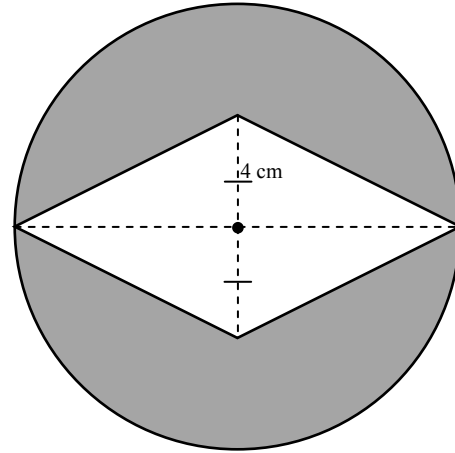
17. Find shaded areas for the regular hexagon with sides of length 6 cm and apothem 5 cm.



18. FOUR is a square. The side of the square is 28 cm. long. Use  $\frac{22}{7}$  for  $\pi$  find the area of the shaded region.

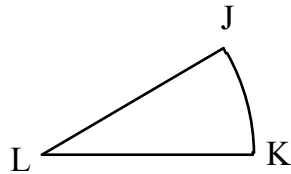


21. The circumference of the circle is 47.1 cm. Find the shaded area. Use 3.14 for pi.

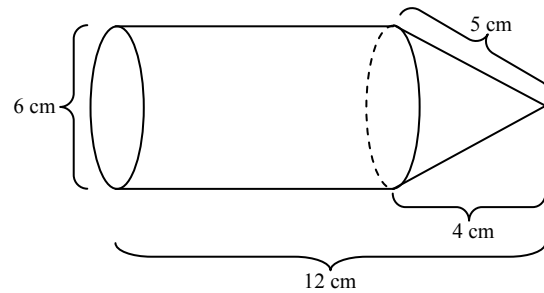


19. The radius of the sector is 4 cm. and its area is  $\frac{64}{45}\pi \text{ cm}^2$ .

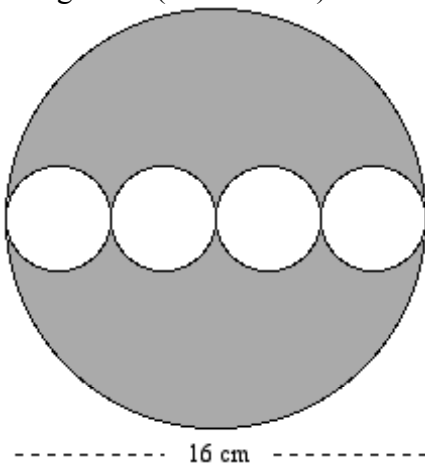
Angle JLK =



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



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



Chapter 9 Test Review Answers

1. (Look at notes)

$$\begin{aligned} 2. \quad 126 &= 2(40+w) \\ 63 &= 40+w \\ w &= 23 \end{aligned}$$

$$\text{area} = 40(23) = \mathbf{920 \text{ sq. meters}}$$

$$\begin{aligned} 3. \quad \frac{1}{2}h(16+44) &= 570 \\ 30h &= 570 \\ h &= \mathbf{19 \text{ cm.}} \end{aligned}$$

$$\begin{aligned} 4. \quad \frac{1}{2}h(22) &= 165 \\ 11h &= 165 \\ h &= \mathbf{15 \text{ ft.}} \end{aligned}$$

$$5. \quad 40w = 1000 \quad \mathbf{w = 25 \text{ meters}}$$

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

$$7. \quad b_1 + b_2 + 34 + 27 = 127$$

$$b_1 + b_2 = 66$$

$$\frac{1}{2}h(b_1 + b_2) = 759$$

$$\frac{1}{2}h(66) = 759 \quad \mathbf{h = 23 \text{ cm}}$$

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

$$\begin{aligned} 9. \quad 2\left(\frac{6 \times 8}{2}\right) + (6+8+10) \times 12 &= \\ 48 + 288 &= \mathbf{336 \text{ square units}} \end{aligned}$$

$$\begin{aligned} 10. \quad 2\pi(7)^2 + 25\pi(14) &= \\ 98\pi + 350\pi &= \mathbf{448\pi \text{ square units}} \end{aligned}$$

$$\begin{aligned} 11. \quad 2\left[10\left(\frac{17+42}{2}\right)\right] + 22(15+17+20+42) &= \\ 590 + 22(94) &= \mathbf{2658 \text{ sq. units}} \end{aligned}$$

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

$$13. \quad \pi(6^2) - \frac{6 \times 6}{2} = \mathbf{36\pi - 18 \text{ sq. cm.}}$$

$$14. \quad 6 \times (5^2) = \mathbf{150 \text{ sq inches}}$$

$$\begin{aligned} 15. \quad \text{sq. yds} \times \text{cost/yard} &= \\ \left(\frac{9 \times 10}{9}\right) \times \$28 &= \mathbf{\$280} \end{aligned}$$

$$16. \quad 60 + 32(3.5) = 60 + 112 = \mathbf{172 \text{ sq meters}}$$

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

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

$$19. \quad \frac{n^\circ}{360} \pi(4)^2 = \frac{64}{45} \pi$$

$$\frac{n^\circ}{360} (16) = \frac{64}{45} \quad \mathbf{n = 32^\circ} = m \angle JLK$$

$$20. \quad \text{Area} = \pi(8)^2 - 4[\pi(2)^2] = \mathbf{48\pi \text{ sq cm.}}$$

$$\begin{aligned} 21. \quad \text{Area} &= 3.14(7.5)^2 - \frac{1}{2}[8(15)] \\ &= \mathbf{116.625 \text{ sq cm.}} \end{aligned}$$

$$\begin{aligned} 22. \quad \text{Area} &= \pi(3)^2 + \pi(6)(8) + \pi(3)(5) \\ &= \mathbf{72\pi \text{ sq cm.}} \end{aligned}$$