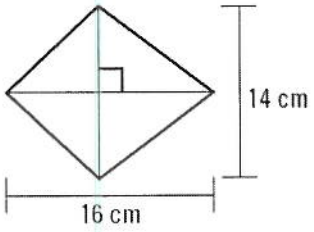
Geometry 9 Chapter 11 Review Name Key

Find the area of the figure. Round answers to the nearest hundredth. UNITS!!!

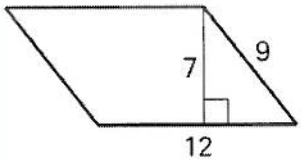
1.



$A = \frac{1}{2} d_1 \cdot d_2$

$A = \frac{1}{2} \cdot 16 \cdot 14 = 112 \text{ cm}^2$

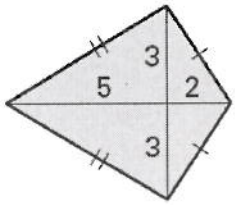
2.



$A = bh$

$A = 12 \cdot 7 = 84 \text{ units}^2$

3.

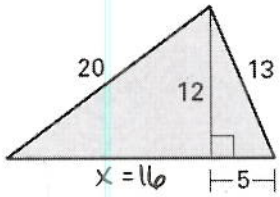


$A = \frac{1}{2} d_1 \cdot d_2$

$A = \frac{1}{2} \cdot 6 \cdot 7$

$A = 21 \text{ units}^2$

4.



$12^2 + x^2 = 20^2$

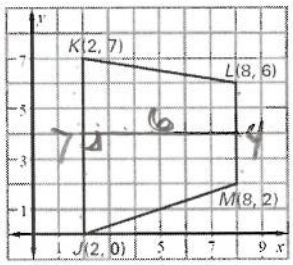
$x = 16$

$A = \frac{1}{2} bh$

$A = \frac{1}{2} \cdot 21 \cdot 12$

$A = 126 \text{ units}^2$

5.

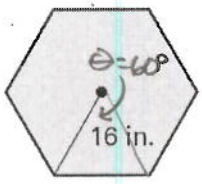


$A = \frac{1}{2}(b_1 + b_2)h$

$A = \frac{1}{2}(11)6$

$A = 33 \text{ units}^2$

6.

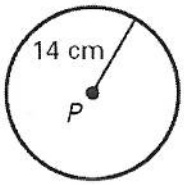


$A = \frac{1}{2} \cdot r^2 \cdot n \cdot \sin\theta$

$A = \frac{1}{2} \cdot 16^2 \cdot 6 \cdot \sin 60$

$A = 665.11 \text{ in}^2$

7.



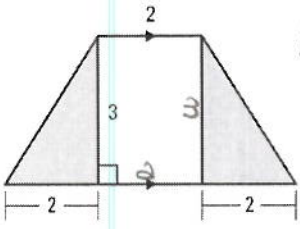
$A = \pi r^2$

$A = \pi \cdot 14^2$

$A = 615.75 \text{ cm}^2$

Find the area of the shaded region.

8.

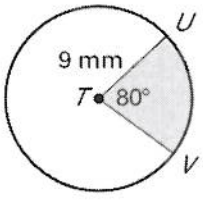


$2\left(\frac{1}{2}bh\right)$

$2\left(\frac{1}{2} \cdot 2 \cdot 3\right)$

6 units^2

9.

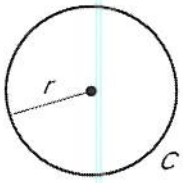


$\frac{\text{Area}}{\pi \cdot 9^2} = \frac{80}{360}$

$\text{Area} \approx 56.55 \text{ mm}^2$

Find the indicated measure or length. Round answers to the nearest hundredth. UNITS!!!

10. Find the radius.

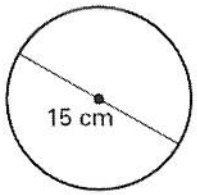


$C = 2\pi r$

$100 = 2\pi r$

$r \approx 157.08$ ft.

11. Find the circumference.

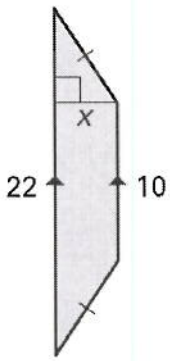


$C = \pi d$

$C = \pi \cdot 14$

$C = 43.98$ cm

12. Find the height, x, if the area is 80 u²



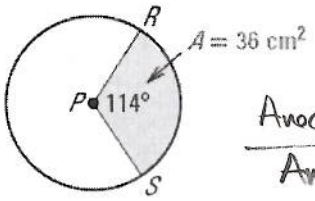
$A = \frac{1}{2}(b_1 + b_2)h$

$80 = \frac{1}{2}(10 + 22)x$

$80 = 16x$

$x = 5$ units

13. Radius of $\odot P$



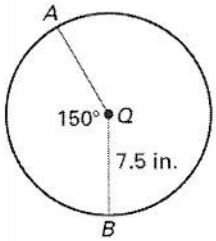
$\frac{\text{Area sector}}{\text{Area } \odot} = \frac{\text{central } \angle}{360°}$

$\frac{36}{\pi r^2} = \frac{114}{360}$

$\pi r^2 \approx 113.68$

$r \approx 6.02$ cm

14. Length of $\overset{\frown}{AB}$

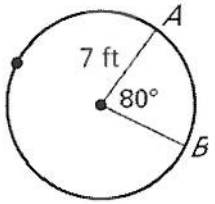


$\frac{m\overset{\frown}{AB}}{2\pi r} = \frac{\text{central } \angle}{360}$

$\frac{x}{2\pi \cdot 7.5} = \frac{150}{360}$

$m\overset{\frown}{AB} \approx 19.63$ in.

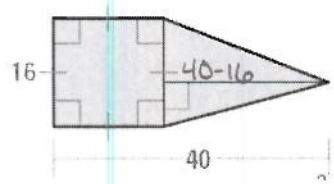
15. Length of $\overset{\frown}{AB}$



$\frac{x}{2\pi \cdot 7} = \frac{80}{360}$

$m\overset{\frown}{AB} \approx 9.77$ ft

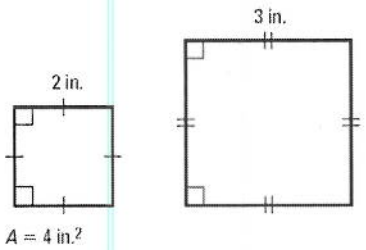
16. Find the area of the entire figure. (hint: square + triangle)



$16 \cdot 16 + \frac{1}{2} \cdot 16 \cdot 24 =$ 448 units²

For the similar figures, find: ratio of sides, ratio of areas, and then find the missing area.

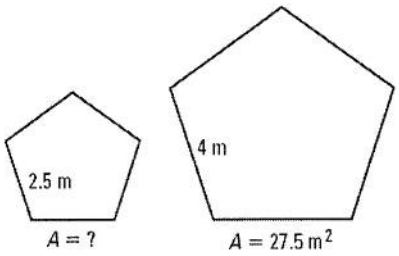
17.



Ratio of sides: $\frac{2}{3}$ **Ratio of areas:** $\frac{4}{9}$

Area of large square: $9\ in^2$

18.



Ratio of sides: $\frac{2.5}{4}$ **Ratio of areas:** $\frac{6.25}{16}$

Area of small pentagon:

$\frac{6.25}{16} = \frac{A}{27.5}$ $A \approx 10.74 m^2$

19. A platter is in the shape of a regular octagon. Find the area of the platter if it's apothem is 6.5 inches.

need $a = 6.5$

need Perimeter 43.08

One section

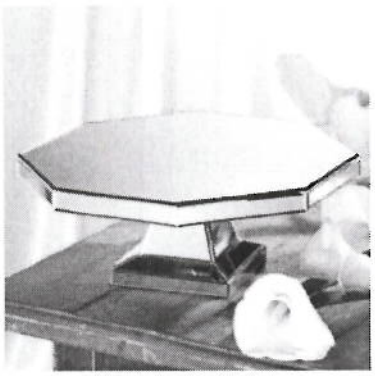
$\frac{360 \div 8}{2} = 22.5°$

$\tan 22.5 = \frac{x}{6.5}$

$x \approx 2.69$

side length $= 2 \cdot x \approx 5.38$

Perimeter $\approx 8 \cdot 5.38$



$A = \frac{1}{2} \cdot a \cdot P$

$A = .5 \cdot 6.5 \cdot 43.08$

$A \approx 140.01\ in.^2$

Complete the statement.

20. *Kite*

Area = 56 ft²

Diagonal 1 = 14 ft

Diagonal 2 = 8 ft.

$A = \frac{1}{2} \cdot d_1 \cdot d_2$

$56 = .5 \cdot 14 \cdot d_2$