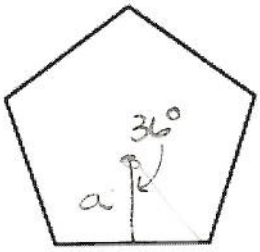
Tour de Geometry

Stage 1 Semester 2

Team Name: Key

1. Find the area of the regular polygon.

A = 688 units²



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

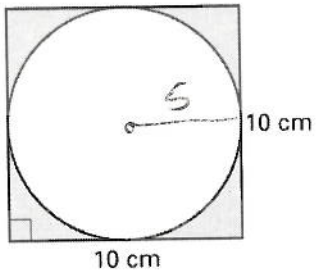
$A = \frac{1}{2} \cdot 13.76 \cdot 100$

$A = 688$

$\tan 36 = \frac{10}{a}$

Find the area of the shaded region.

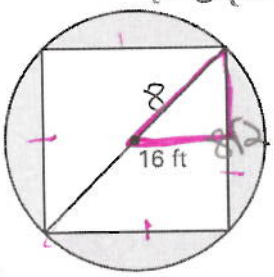
2. $100 - \pi \cdot 25$



2) 21.46 cm²

3. $\pi \cdot 64 - (8\sqrt{2})^2$

$\pi \cdot 64 - 128$



$\frac{16}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}}$

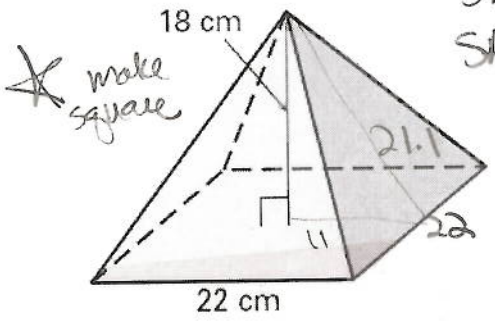
$\frac{16\sqrt{2}}{2}$ $8\sqrt{2}$

3) 73.06 ft²

4. Find the surface area and volume of the pyramid.

SA = 1412.4 cm²

V = 2904 cm³



$SA = B + \frac{1}{2}Pl$

$SA = 22^2 + \frac{1}{2} \cdot 88 \cdot 21.1$

$V = \frac{Bh}{3} = \frac{22^2 \cdot 18}{3}$

5. Solve the proportion.

$\frac{2z}{27} = \frac{3z+9}{81}$

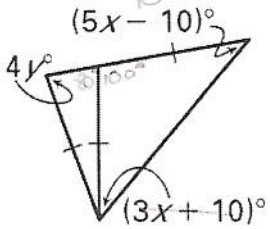
$2z(81) = 27(3z+9)$

$162z = 81z + 243$

$81z = 243$

$z = 3$

6. Find the values of x and y.



$5x - 10 = 3x + 10$

$2x = 20$

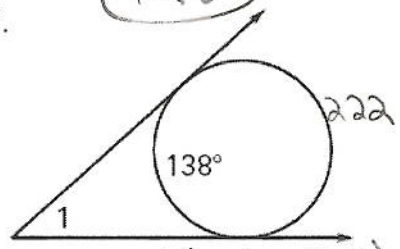
$x = 10$

$x =$ 10

$y =$ 20

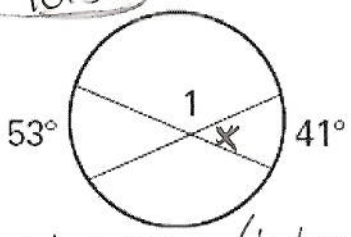
Find the indicated angle measure.

7. (10.5)



$m\angle 1 = \frac{1}{2}(222 - 138)$

8. (10.5)

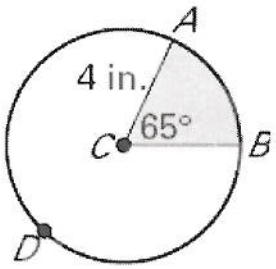


$m\angle 1 = 180 - \left(\frac{1}{2}(53+41)\right)$

7. $m\angle 1 = 42^\circ$

8. $m\angle 1 = 133^\circ$

9. Find the area of the shaded region.



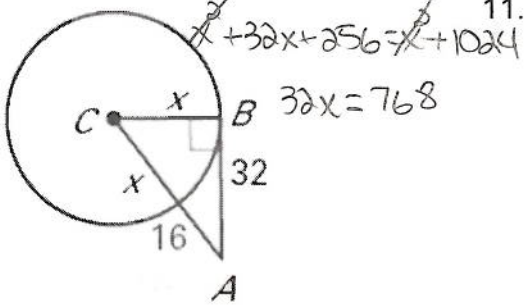
$\frac{\text{area sect}}{\pi r^2} = \frac{65}{360}$

$\frac{x}{\pi \cdot 4^2} = \frac{65}{360}$

A = 9.08 in^2

Find the value of x.

10.



$(x+16)^2 = x^2 + 32^2$

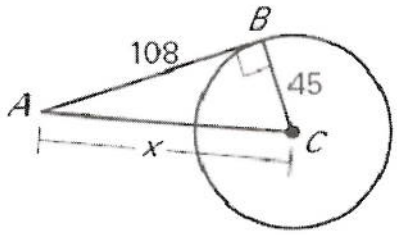
$x^2 + 32x + 256 = x^2 + 1024$

$32x = 768$

11.

$x^2 = 108^2 + 45^2$

$x^2 = 13689$

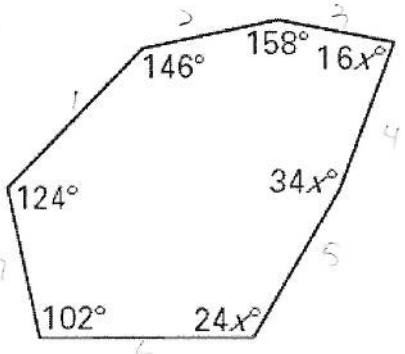


10. $x = 24$

11. $x = 117$

12. Find the value of the variable

(a)



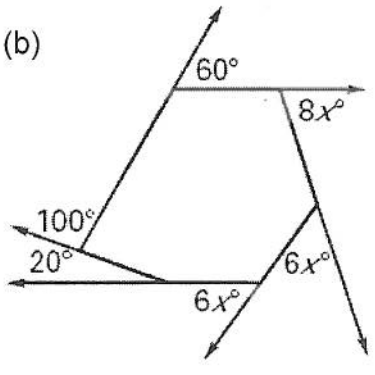
$(n-2)180 =$

$5(180) = 900^\circ$ Total

$74x + 530 = 900$

$74x = 370$

(b)



$20x + 180 = 360^\circ$

$20x = 180$

(a) $x = 5$

(b) $x = 9$