

Final Review

#1

⇒ opp. ∠'s ≅

$$\begin{array}{r} 14x + 6 = 118 \\ -6 \quad -6 \\ \hline \end{array}$$

$$\frac{14x}{14} = \frac{112}{14}$$

$$x = 8$$

#2

⇒ opp. sides ≅

$$\begin{array}{r} 15x = 16x - 1 \\ -16x \quad -16x \\ \hline \end{array}$$

$$\frac{-x}{-1} = \frac{-1}{-1}$$

$$x = 1$$

#3

⇒ Diagonals bisect each other

$$RP = 24 \quad ZP = x + 1$$

$$x + 1 + x + 1 = 24$$

$$\begin{array}{r} 2x + 2 = 24 \\ -2 \quad -2 \\ \hline \end{array}$$

$$\frac{2x}{2} = \frac{22}{2}$$

$$x = 11$$

#4

⇒ consecutive ∠'s are supp.

$$x + 104 + x + 76 = 180$$

$$\begin{array}{r} 2x + 180 = 180 \\ -180 \quad -180 \\ \hline \end{array}$$

$$\frac{2x}{2} = \frac{0}{2}$$

$$x = 0$$

$$m\angle F = 0 + 76 = 76^\circ$$

⇒ $(x-h)^2 + (y-k)^2 = r^2$

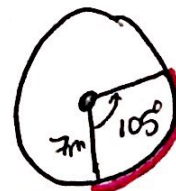
#5 $(x+4)^2 + (y+2)^2 = 4$

center: $(-4, -2)$

radius: 2

#6

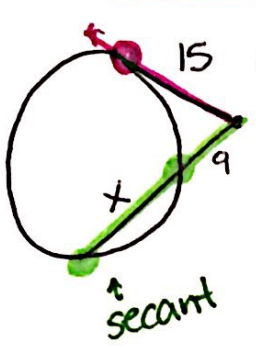
⇒ "crust"
Arc length = $\frac{\theta \pi r}{180^\circ}$



$$AL = \frac{105(3.14)(7)}{180}$$

$$\approx 12.82 \text{ m}$$

#7 ⇒ secant & tangent
 whole (outside) = (tangent)²

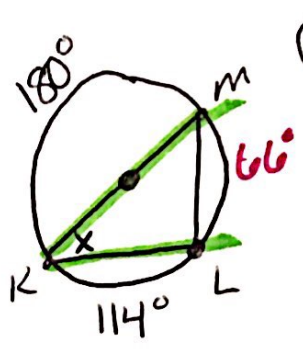


$$(x+9)9 = (15)^2$$

$$9x + 81 = 225$$

$$\begin{array}{r} 9x + 81 = 225 \\ -81 \quad -81 \\ \hline 9x = 144 \\ \frac{9x}{9} = \frac{144}{9} \\ x = 16 \end{array}$$

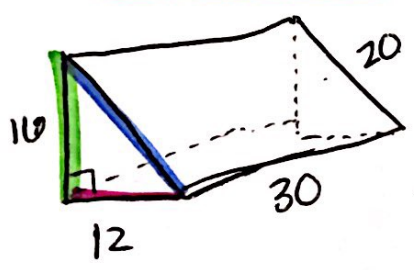
#8 ⇒ inscribed ∠'s = 1/2 arc
 central ∠'s = arc



$$\textcircled{1} 360^\circ - 180 - 114 = 66^\circ$$

$$\textcircled{2} \frac{1}{2}(66) = 33^\circ$$

#1 ⇒ Surface Area: add the areas of all sides



$$A = \frac{1}{2}bh = \frac{1}{2}(16)(12) = 96$$

$$A = lw = 20(30) = 600$$

$$A = lw = 16(30) = 480$$

$$A = lw = 12(30) = 360$$

$$SA = 2(96) + 600 + 480 + 360 = 1632 \text{ m}^2$$

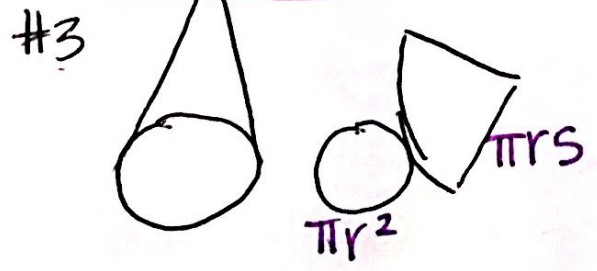
#2 ⇒ Volume:
 Area of base x height

* Cones & pyramid ÷ 3

$$A = \pi r^2 = 3.14(15)^2 = 706.5$$

$$V = (706.5)6 = 4239 \text{ cm}^3$$

⇒ Cones: $(\pi r s) + \pi r^2$



$$SA = 3.14(4)^2 + 3.14(4)(7)$$

$$= 138.16 \text{ in}^2$$