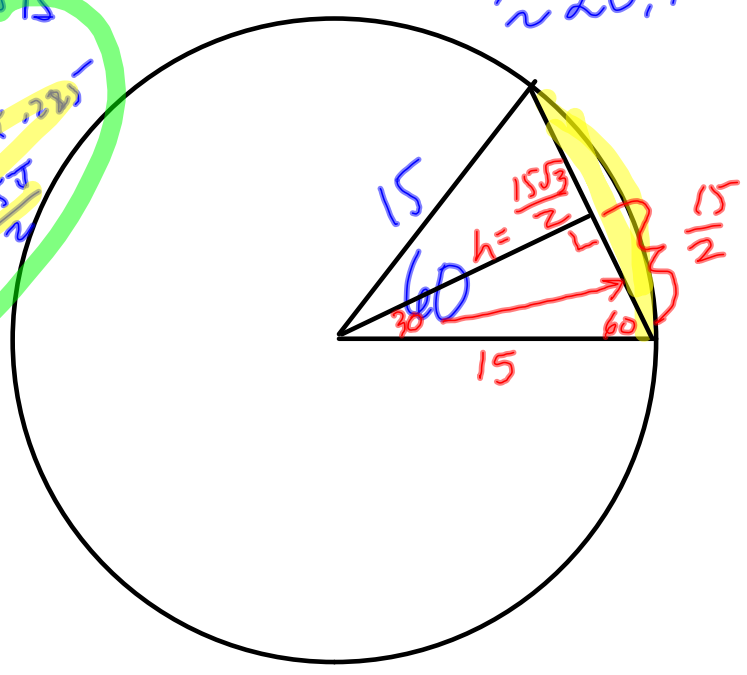


20

$$A_{\text{seg}} = A_{\text{sector}} - A_{\Delta} = \frac{75\pi}{2} - \frac{225\sqrt{3}}{4} = 20.3818 \approx 20.4$$

$$A_{\text{sector}} = \frac{60}{360} \pi (15)^2 = \frac{1}{6} \cdot \pi \cdot 225 = \frac{75\pi}{2}$$

$$A_{\Delta} = \frac{1}{2} (15) \left(\frac{15\sqrt{3}}{2} \right) = \frac{225\sqrt{3}}{4}$$



22

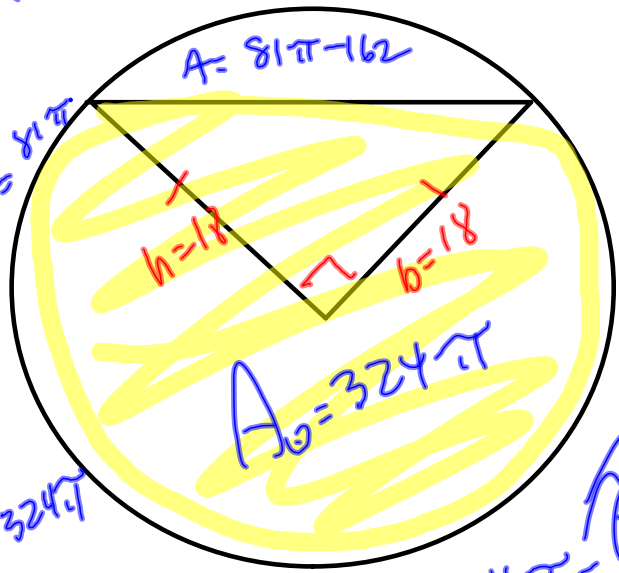
$$A_{\text{seg}} = A_{\text{sector}} - A_{\Delta} = 81\pi - 162$$

$$A_{\text{sector}} = \frac{90}{360} \cdot \pi (18)^2 = \frac{324\pi}{4} = 81\pi$$

$$A_{\Delta} = \frac{1}{2} (18)(18) = 162$$

$$A_{\circ} = \pi (18)^2 = 324\pi$$

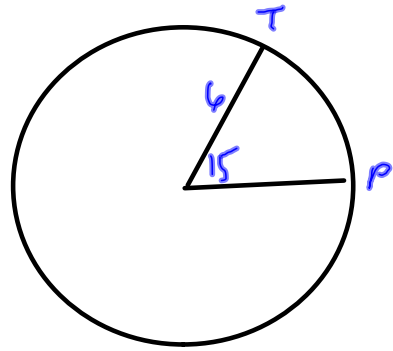
$$A_{\text{shaded}} = A_{\circ} - A_{\text{seg}} = 324\pi - (81\pi - 162) = 324\pi - 81\pi + 162 = 243\pi + 162$$



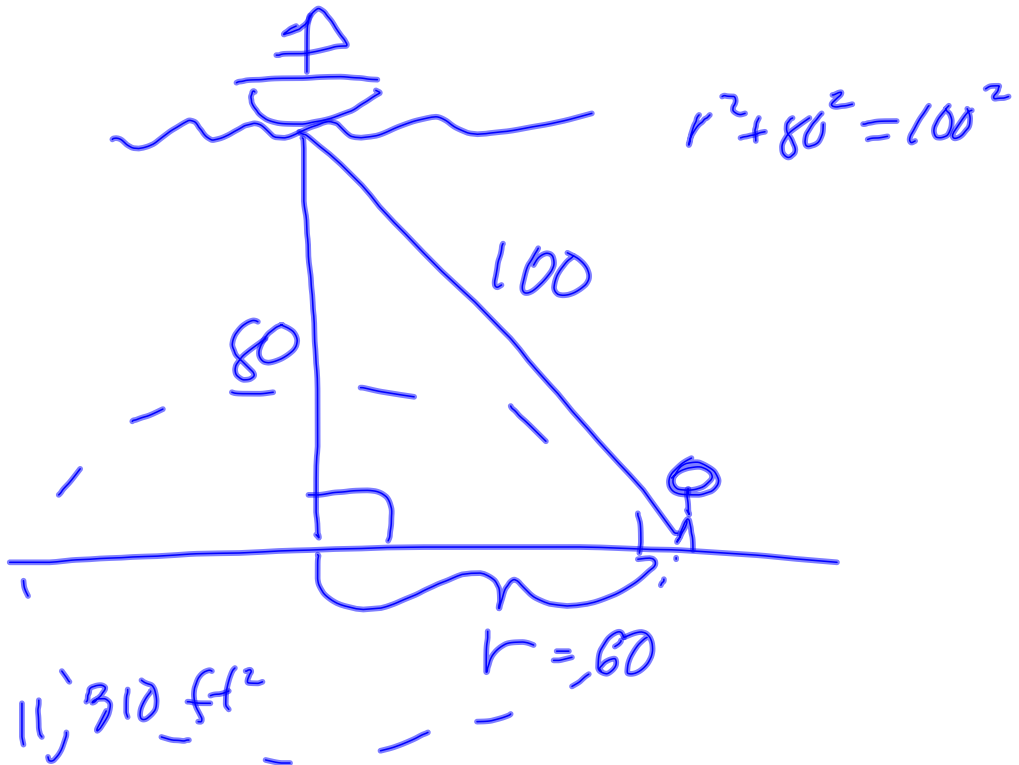
(14)

$r = 6$
 $m\widehat{TP} = 15^\circ$

$$\begin{aligned} A_{\text{sector}} &= \frac{15}{360} \pi (6)^2 \\ &= \frac{1}{24} \cdot \pi \cdot 36 \\ &= \frac{36\pi}{24} \\ &= \frac{3}{2} \pi \end{aligned}$$



(28)



30



$O, r = 12$

↑

$A_1 = 16\pi$

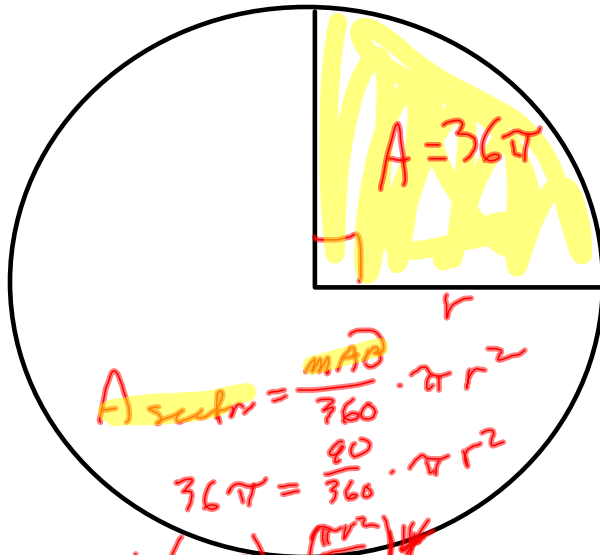
$A_2 = 144\pi$

~~$\frac{144\pi / 16\pi}{(144\pi) / (16\pi)} = 88.826...$~~

~~$\frac{n \cdot 16\pi}{16\pi} = \frac{144\pi}{16\pi}$~~

$n = 9$

32



$A_{sector} = \frac{m\widehat{AB}}{360} \cdot \pi r^2$

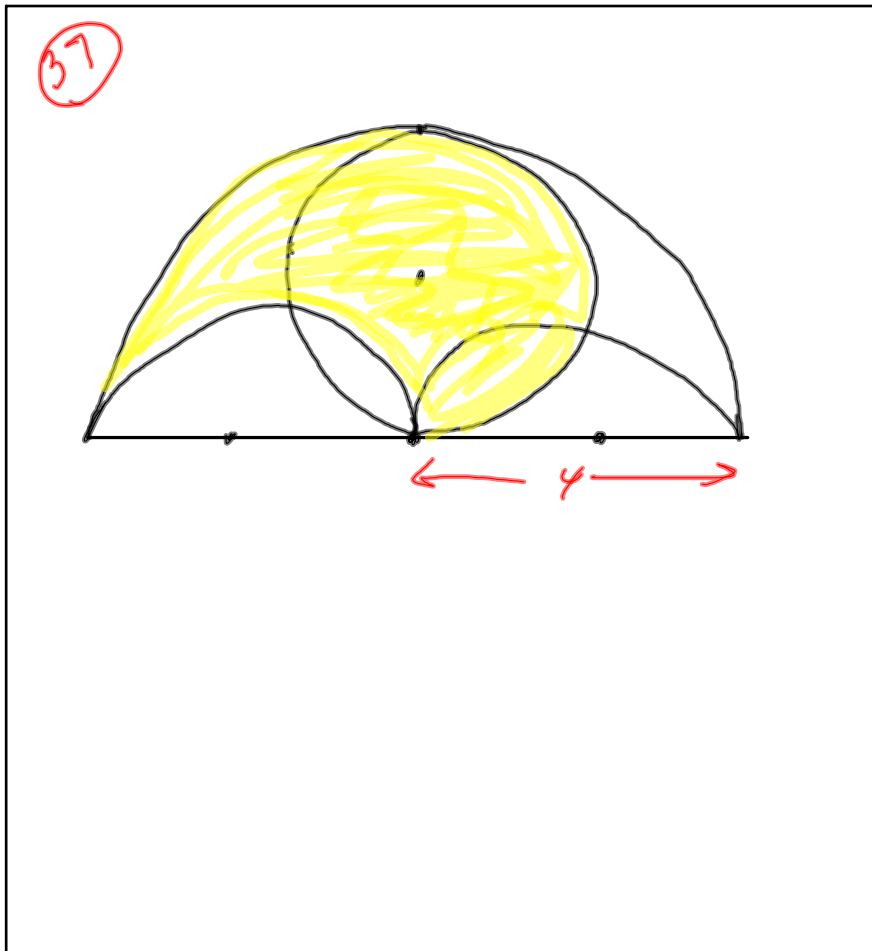
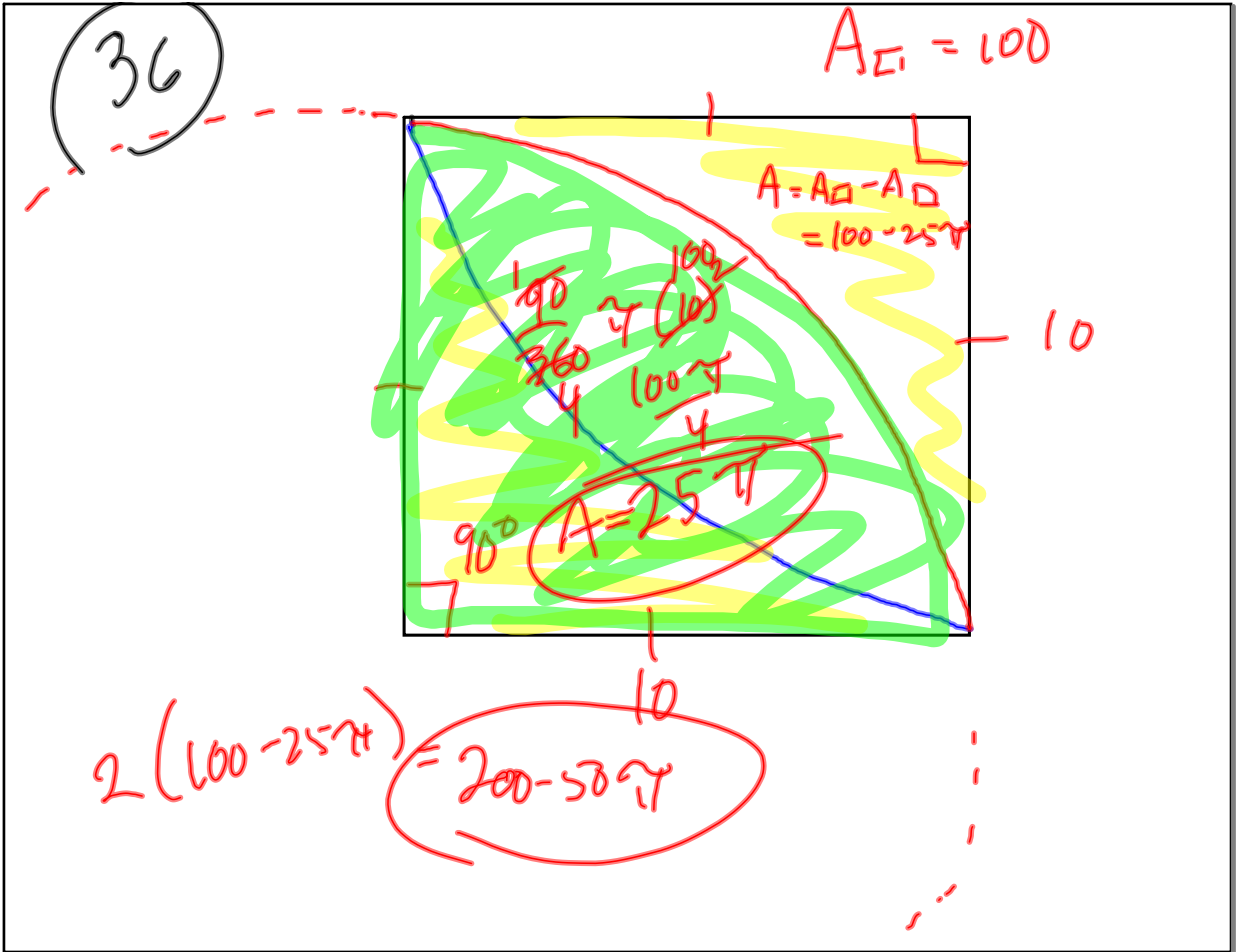
$36\pi = \frac{90}{360} \cdot \pi r^2$

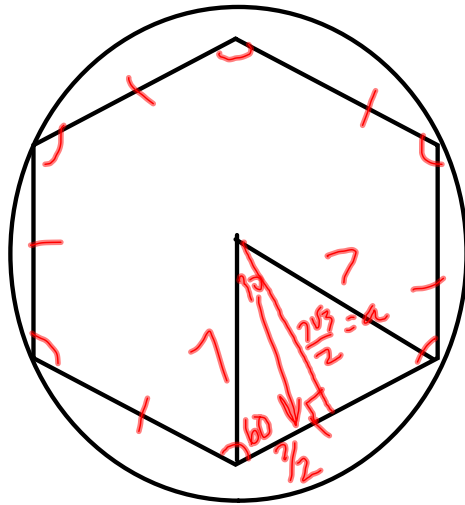
$4(36\pi) = \frac{\pi r^2}{4}$

$\frac{144\pi}{\pi} = \frac{\pi r^2}{\pi}$

$r^2 = 144$

$r = 12$





$$49\pi - 73.5\sqrt{3}$$

$$n = 6$$

$$m\angle = 60$$

$$a = \frac{7\sqrt{3}}{2} \text{ or } 3.5\sqrt{3}$$

$$s = 7$$

$$p = 42$$

$$A_{\text{hex}} = \frac{1}{2} \left(\frac{7\sqrt{3}}{2} \right) \frac{42}{1}$$

$$= \frac{147\sqrt{3}}{2}$$

$$= 73.5\sqrt{3}$$