



0.45
5 (16)

$$\angle A_1 = \frac{1}{2} \alpha \quad \angle B_1 = \frac{1}{2} \beta$$

$$\boxed{\alpha = \angle O_1 = \angle O_2 = \widehat{AN}}$$

$$\angle B_2 = \frac{1}{2} \angle O_2 = \frac{1}{2} \alpha$$

$$\triangle BCD: \angle C_1 = 180 - \angle D - \angle B_{12} = 90 - \frac{1}{2} \alpha - \frac{1}{2} \beta$$

$$\angle ALC = \angle B_{12} + \angle A_1 = \alpha + \frac{1}{2} \beta$$

$$\angle O_3 = 180 - \angle O_1 = 180 - \alpha = \widehat{MN}$$

$$\boxed{\angle AC = \widehat{MN} - \widehat{NC} = 180 - \alpha - \beta}$$

$$\angle A_2 = \frac{1}{2} \angle O_3 = 90 - \frac{1}{2} \alpha - \frac{1}{2} \beta$$

$\triangle DAC$

$$\angle C_2 = 180 - \angle D - \angle A_{12} = \frac{1}{2} \beta$$

$$\boxed{\angle AT = 2 \angle C_2 = \beta}$$

\therefore

$$\angle OEF = \angle C_2 + \angle A_2 = 90 - \frac{1}{2} \alpha$$

والمثل في OEF

$\triangle OEF$:

$$\angle O_2 = \alpha$$

$$\angle OFE = 180 - \angle O_2 \Rightarrow \angle OEF = 90 - \frac{1}{2} \alpha$$

$$\angle OEF = \angle OFE \Rightarrow \text{OEN OEF}$$