



1.59
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-1c

$CA = AB$
 $\angle C_1BC = 60^\circ + \angle ABC = \angle ABA_1$
 $CB = BA_1$
 \Downarrow
 (S.S.) $\triangle C_1BC \cong \triangle ABA_1$
 \Downarrow
 $\angle C_1CB = \angle BAO, AA_1 = CC_1$

$\angle A C_1 O = \alpha \Rightarrow \angle O C_1 B = 60 - \alpha$
 $\angle O C_1 B = 60 - \alpha = \angle BAO$
 $\angle C_1 A B = 60^\circ$

$\triangle A C_1 O:$
 $180^\circ = \angle A C_1 O + \angle C_1 A O + \angle A O C_1$
 $180^\circ = \alpha + (60 + 60 - \alpha) + \angle A O C_1$
 $\Rightarrow \boxed{60^\circ = \angle A O C_1}$

$\angle = \angle ABO = \angle A C_1 O =$
 ...
 180° ...
 $\boxed{\angle AOB = 120^\circ} \Leftarrow \angle AOB + \angle A C_1 B = 180^\circ$

$\angle AOB + \angle A C_1 B = 180^\circ$

$180^\circ = \angle B_1 O B$
 $(\text{S.S.}) \triangle B_1 O A \cong \triangle B_1 O B$
 $(\text{A.S.}) \angle B_1 O A = \angle B_1 O B = 60^\circ$
 $\angle B_1 O B = \angle B_1 O A + \angle A O B = 60 + 120 = 180^\circ \Rightarrow \angle AOB$