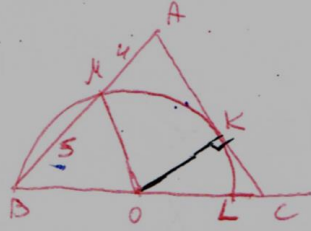


3.37  
4



$AO = BO$   
 $\Rightarrow \angle B = \angle BAO$   
 $\angle B = \angle C$   
 $\Rightarrow \triangle ABC \sim \triangle OBH$  (S.S)

$AK^2 = AB \cdot AH$  (... non / AH)  $\frac{3}{4}$   
 $AK^2 = 9 \cdot 4 \rightarrow AK = 6 \rightarrow \boxed{KC = 3}$

5.0/CC:

$OC^2 = OK^2 - KC^2$   $\frac{c}{e}$   
 $(R+LC)^2 = R^2 + 9$   
 $R^2 + 2RLC + LC^2 = R^2 + 9$   
 $LC(2R+LC) = 9 \rightarrow \boxed{\frac{9}{LC} - LC = 2R}$   
 (in figo) pibon / 11/31

$\frac{BH}{BC} = \frac{R}{9}$   
 $\frac{5}{2R+LC} = \frac{R}{9}$

$\rightarrow 45 = 2R^2 + R \cdot LC$   
 $45 = \frac{1}{2} \left( \frac{9}{LC} - LC \right)^2 + \frac{1}{2} \left( \frac{9}{LC} - LC \right) \cdot \frac{1}{2}$   
 $90 = \frac{81}{LC^2} - 18 + LC^2 + 9 - LC^2$

$LC^2 = \frac{81}{99} \rightarrow LC = \frac{9}{3\sqrt{11}} = \frac{3}{\sqrt{11}}$

$2R = \frac{9}{\frac{3}{\sqrt{11}}} - \frac{3}{\sqrt{11}} = 3\sqrt{11} - \frac{3}{\sqrt{11}} = \frac{33-3}{\sqrt{11}} = \frac{30}{\sqrt{11}}$   
 $\boxed{R = \frac{15}{\sqrt{11}}}$