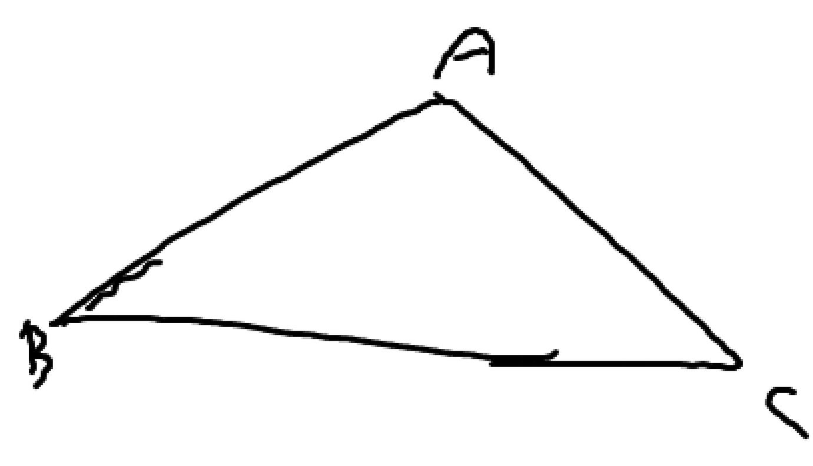
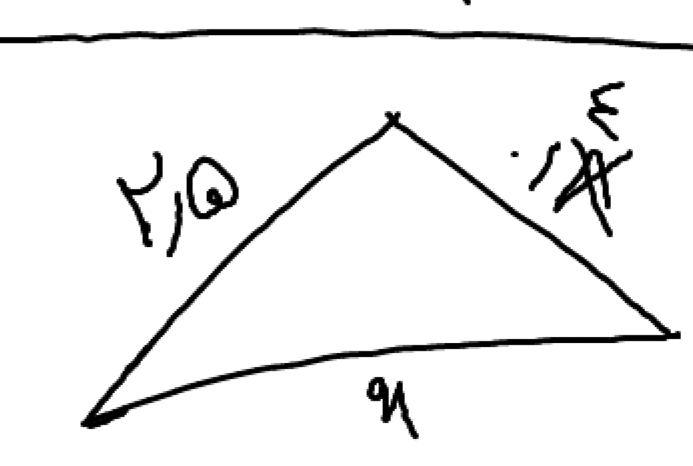


$AB < AC + BC$ نامساوی مثلث

⋮

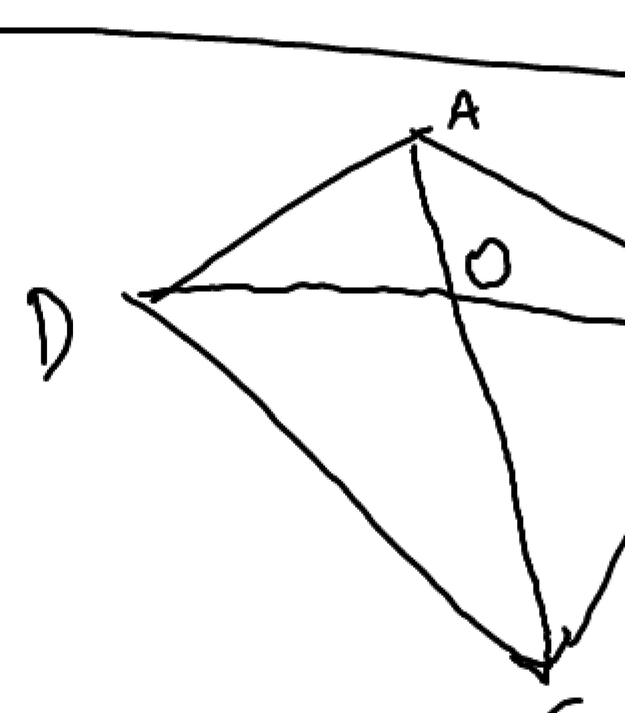


$۹ < ۲٫۹$

$۹ + ۰٫۴ > ۲٫۵$

$۹ > ۲٫۱$

۹ صحیح وجود ندارد



محدب $p =$ محیط

$\frac{p}{۲} < AC + DB < p$

۴ بار نامساوی مثلث

ABD

BDC

ABC

ADC

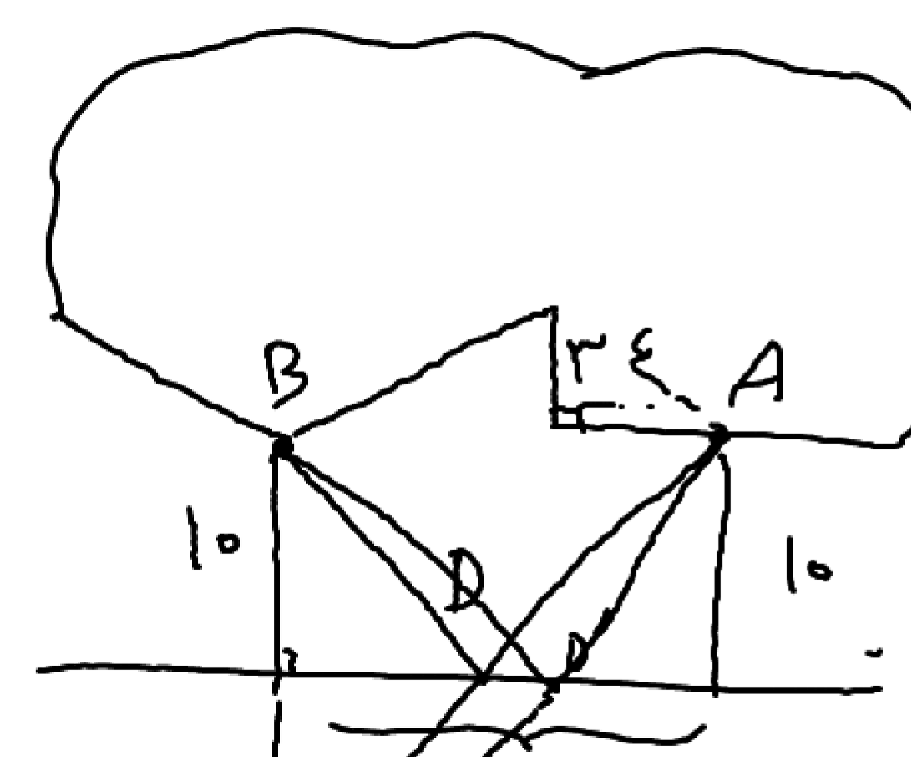
$AO + OD > AD$

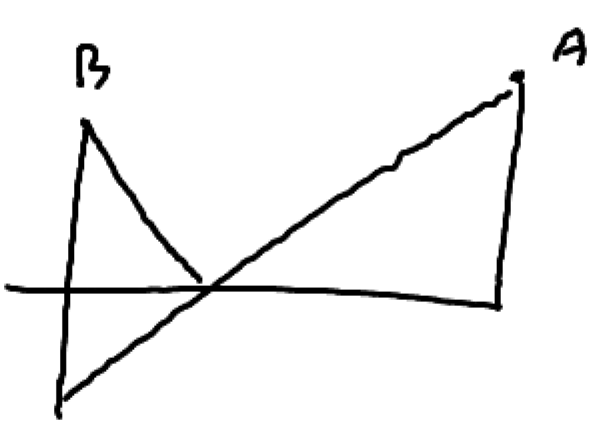
$AO + OB > AB$

⋮

$۲(AC + BD) > p$

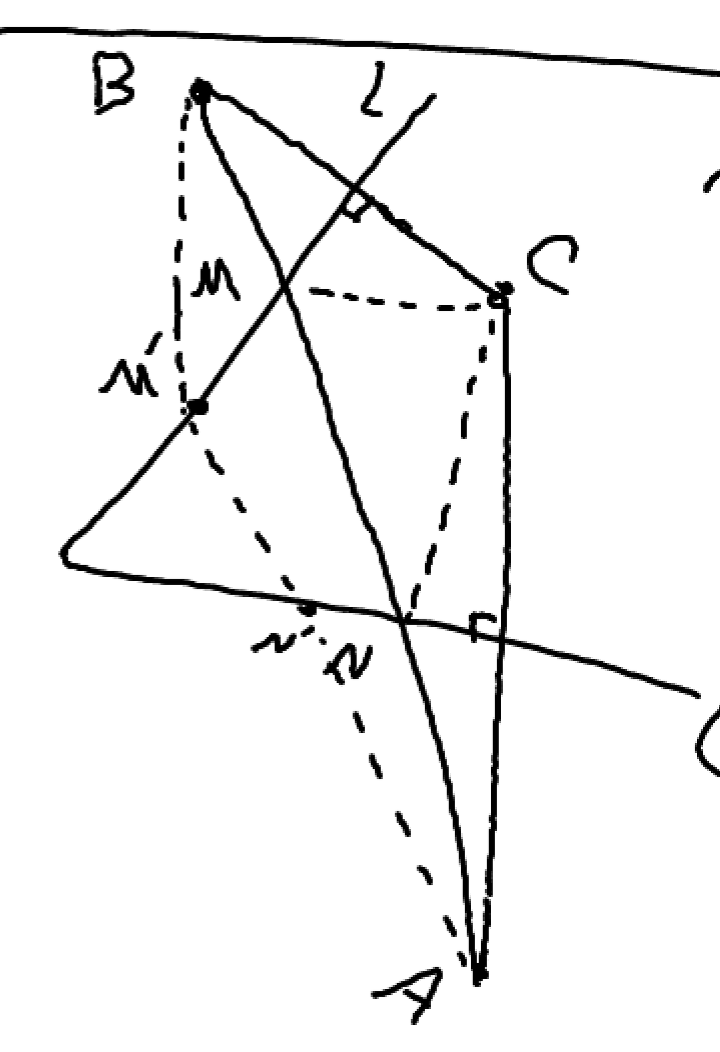
$AC + BD > \frac{p}{۲}$





$AD + DB = AB' = AD + DB' < AD' + D'B'$

نامساوی مثلث



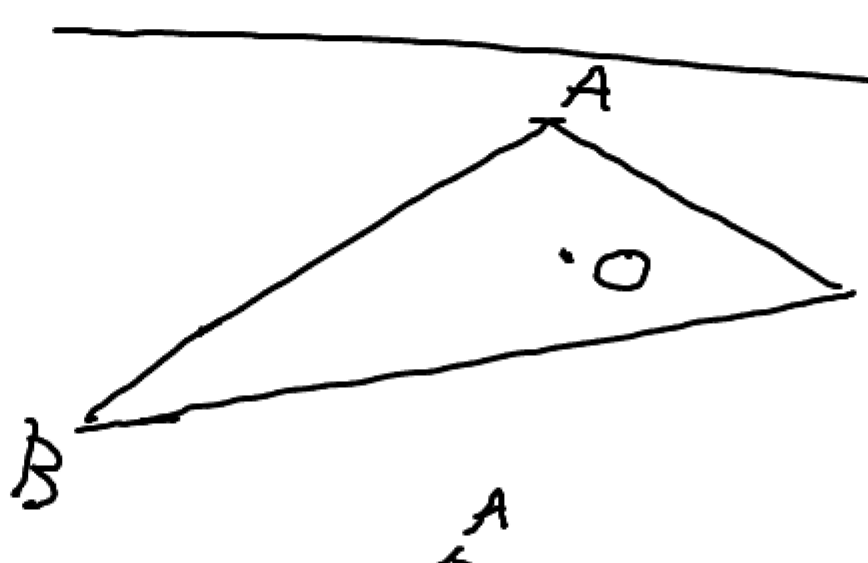
مسیر: $C \sim l \sim l' \sim C$

کوتاهترین

CMNC

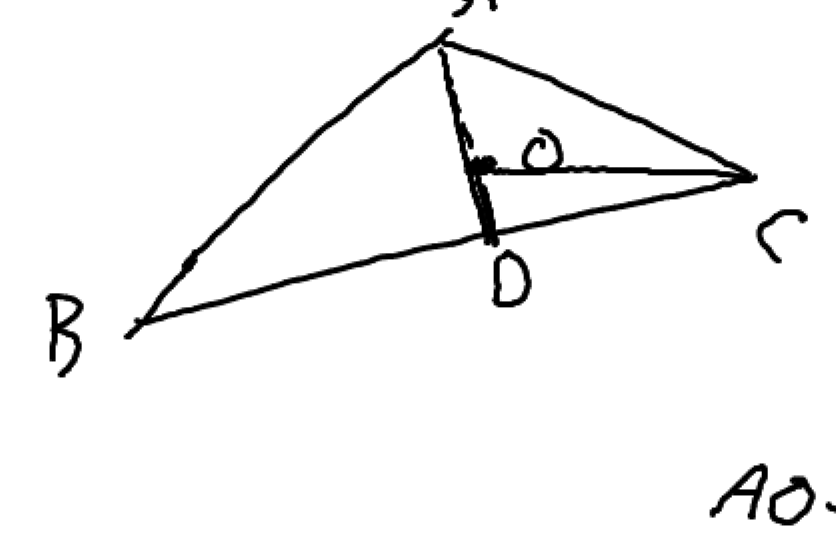
$BM + MN + NA = BA$

$CM' + M'N' + N'C = BM' + M'N' + N'A =$ ۳ پاره خط از B به A



O داخل مثلث

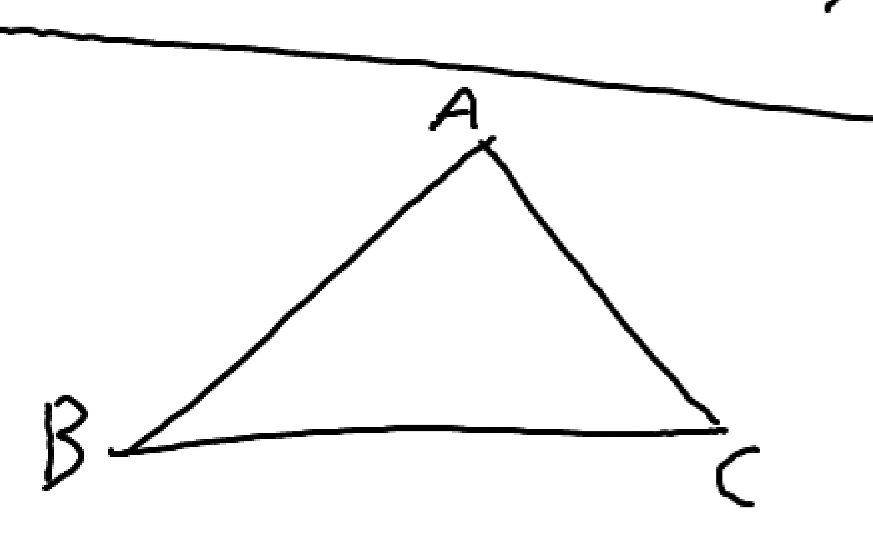
$AO + OC < AB + BC$



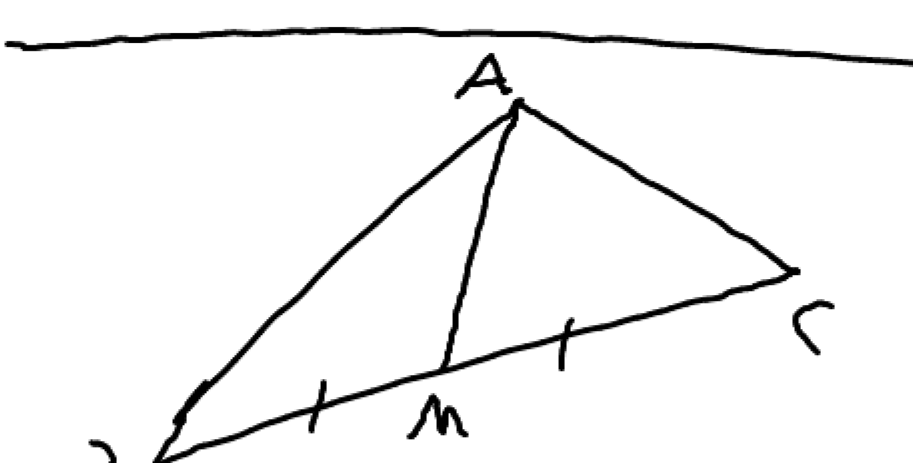
$AD < AB + BD$

$OC < OD + DC$

$AO + \cancel{OD} + OC < AB + BC + \cancel{OD}$



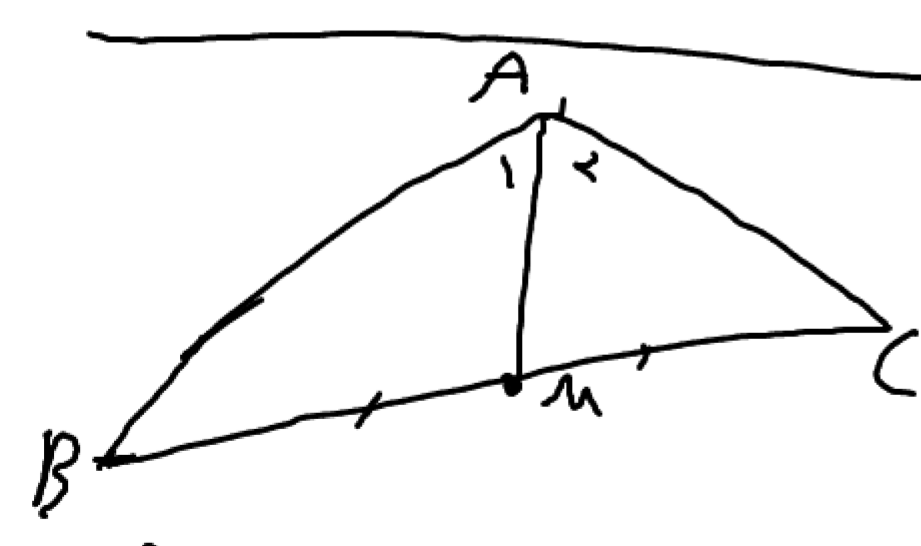
$C > B \Longleftrightarrow AB > AC$



$AM > \frac{1}{۲}(AB + AC - BC)$

$AM + BM > AB$

$AM + MC > AC$ } +



مفروض: $AM \geq \frac{1}{۲} BC$

حکم: $A \leq ۹۰$

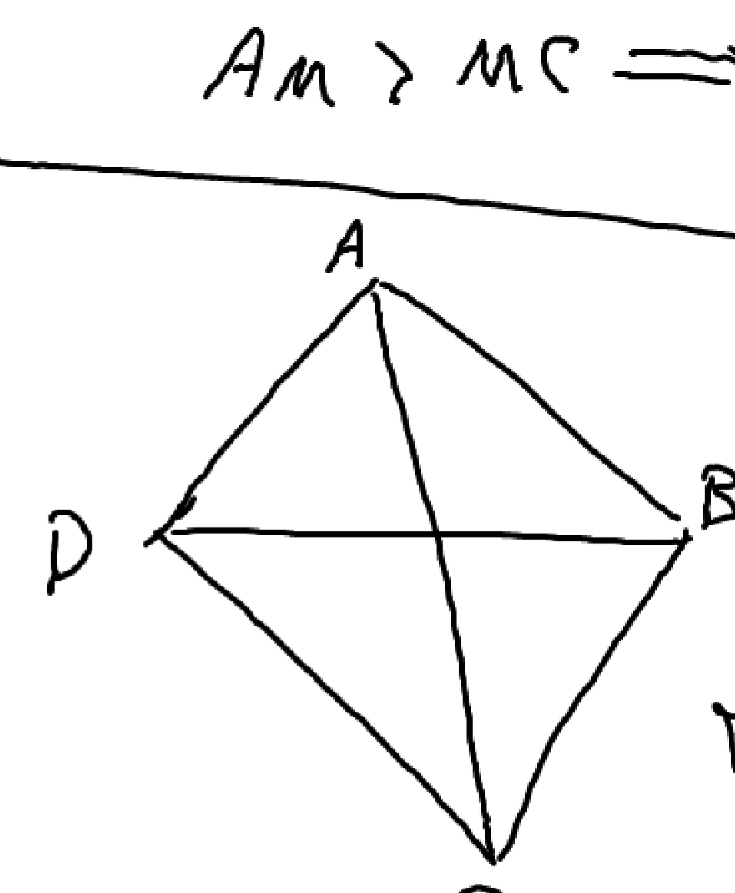
$\frac{1}{۲}BC = BM = MC < AM$

$AM > BM \Longrightarrow B > A_1$

$AM > MC \Longrightarrow C > A_۲$

$B + C \geq A$

$A \leq ۹۰$

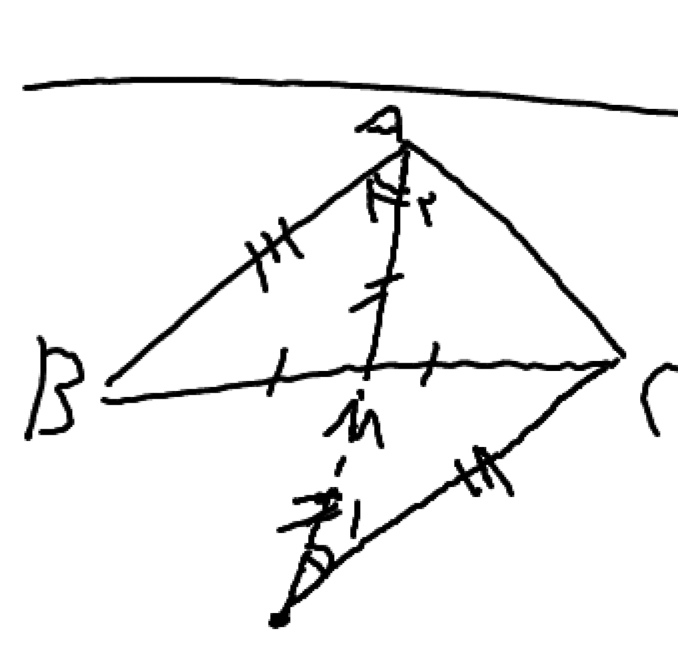


$AB + BD < AC + CD \Rightarrow AB < AC$

$AC + BD > AB + DC$

$۲AC + \cancel{BD} + \cancel{DC} > ۲AB + \cancel{DC} + \cancel{BD}$

$AC > AB$



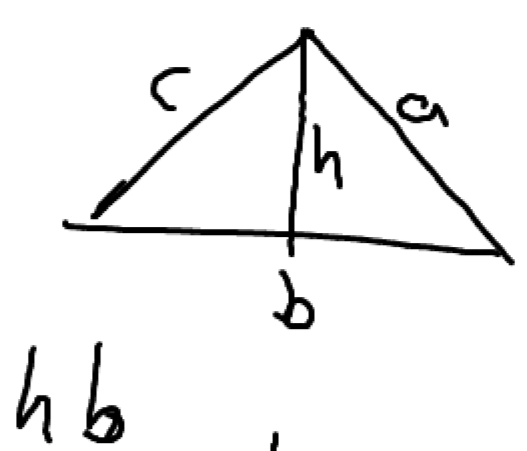
$AC < AB \Longrightarrow A_۲ > A_1$

$DC = AB$

$AC < AB \Longrightarrow AC < DC$

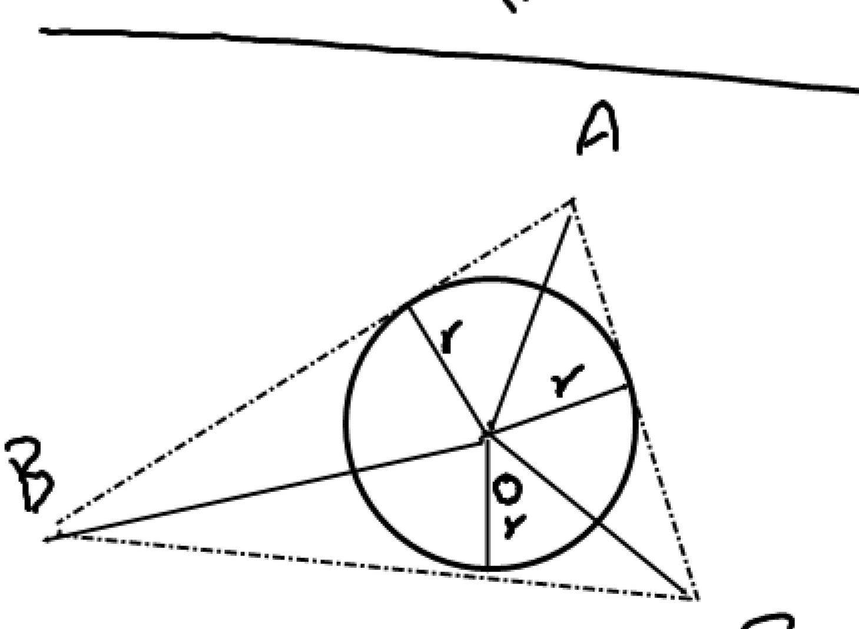
$\hat{D}_1 < A_۲ \Longrightarrow \hat{A}_1 < \hat{A}_۲$

S مثلث $= \frac{\text{قاعده} \times \text{ارتفاع}}{۲}$



$S \leq \frac{ab}{۲}$

$s = \frac{hb}{۲}$ $h \leq a \Longrightarrow S \leq \frac{ab}{۲}$



$S = rp$ → مساحت مثلث

r: شعاع دایره محاطی

p: نصف محیط مثلث

$S_{OBC} = \frac{r \times BC}{۲}$

$= \frac{r \times AC}{۲}$

$\frac{r \times AB}{۲}$

} + $r\left(\frac{AB + BC + AC}{۲}\right) = rp$