Ben Hartley
Math 128 A
MWF 9:30

HW # 3 Levi 17

Let ΔABC have sides with lengths $3, 4, x$.
Note that $3+4 > x \Rightarrow 7 > x$
$3+x > 4 \Rightarrow x > 1 \Rightarrow x \in (1,7)$.
$4+x > 3 \Rightarrow x > -1$

By the lemma, the maximum area of ΔABC occurs when $x = 5$ in which case the area $= 6$.
Looking at the diagram and using similar logic to that used in the lemma, it is apparent that the area of ΔABC approaches 0 as C approaches the line segment AB in a counter clockwise direction.
Therefore
Area $\Delta ABC \in (0, 6]$.

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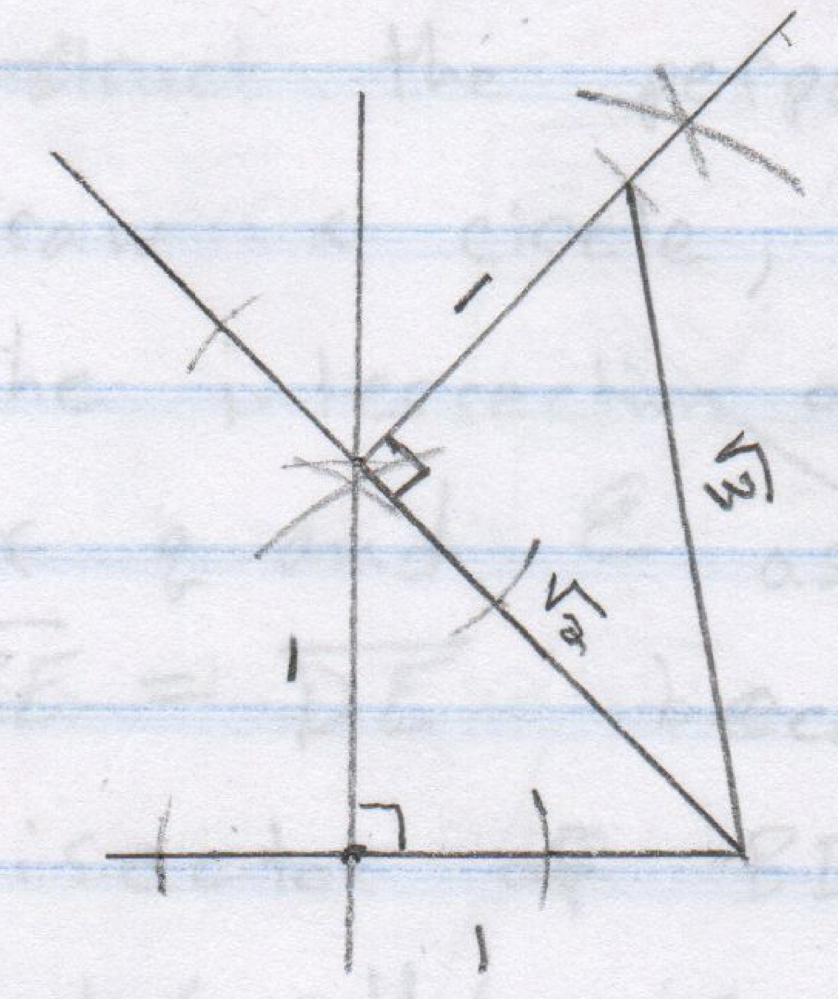
Pillars 2.5.4



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Pillars 2.7.4

Given an n-Gon, we may cut up the n-Gon into Δs (by assumption). These Δs may be "squared" (by Levi 9). These squares may be combined, two squares at a time, into one big square whose area is the sum of the little squares (by 2.7.3).

how? using what?

Q.E.D.