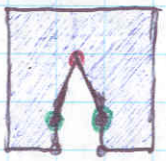
Ungluable polygon:



[Demaine, Demaine, Lubiw, O'Rourke 2000]

6.885
L12.5
Oct. 25, 2004

- no convex vertex (angle 90°) can be glued into red reflex vertex

⇒ "zip" red reflex vertex

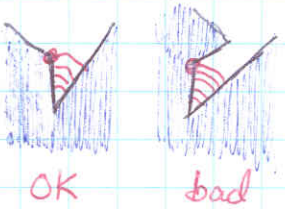
⇒ green reflex vertices glued together

⇒ >360° of material ✗

Random polygons are ungluable:

- Say, ≈uniform distribution on angles & edge lengths

⇒ ≈ $n/2$ reflex vertices

~~"v"~~ v leads to more reflex vertices (edge lengths don't match)

- gluing in a convex vertex
- eventually must zip a reflex vertex, which fails if nearer angle is reflex (bound to happen somewhere)