

**Point Location**

**Kirkpatrick Structure**

**- Degree**

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## Degree

❖ The hole left by the removal of a vertex of degree  $d$  is

a star-shaped polygon of  $d$  vertices

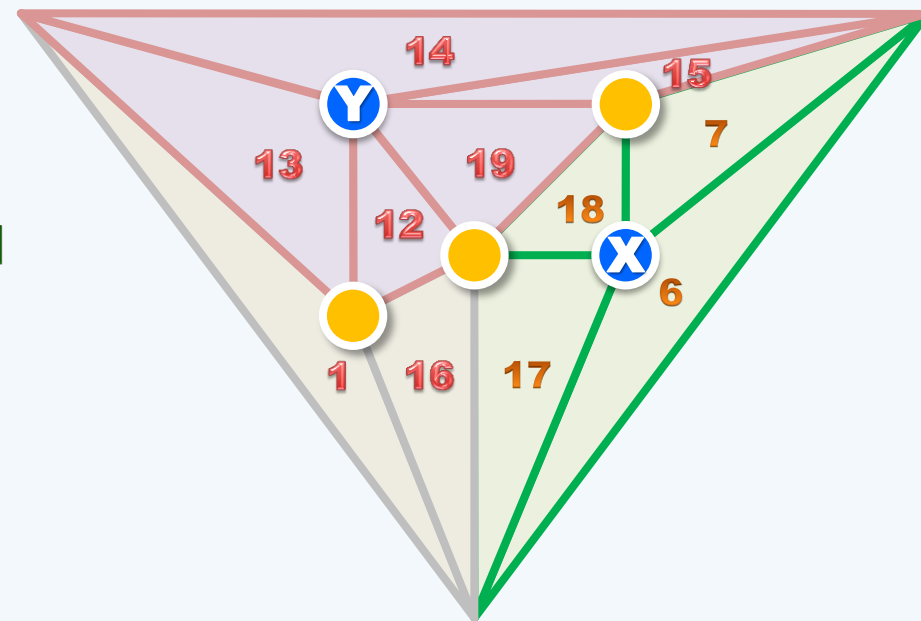
❖ Thus, in the re-triangulation

- there will be  $d - 2$  new triangles, and

- each of them can overlap

at most  $d$  old triangles

in the previous triangulation



## Independent Vertices

❖ As a conclusion, we need to find & remove an independent subset

- whose size is at least

- a constant fraction of the superset and

- each vertex of which has

- a constant degree

❖ Is it always possible to find such an IS?

And if yes, how?

