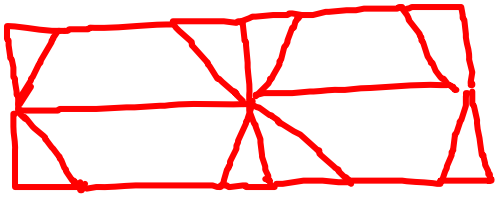
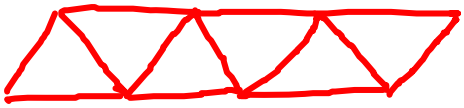
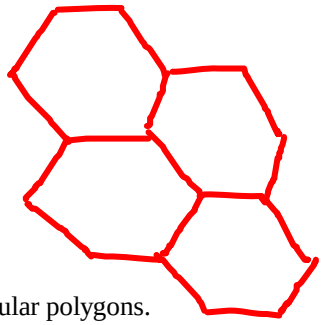
Tessellations

Tessellation - A pattern of figures that cover a plane with no gaps or overlaps.

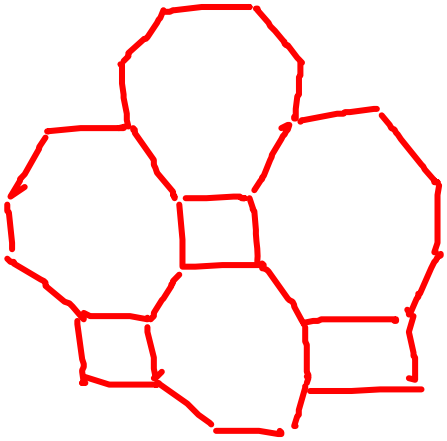


Regular Tessellation - A tessellation that consists of congruent polygons.

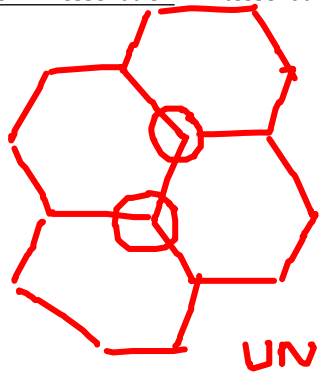




Semiregular Tessellation - A tessellation that consists of two or more regular polygons.



Uniform Tessellation - A tessellation that contains the same combination of shapes and angles at each vertex.



1. Determine whether each figure tessellates a plane.

a) Regular Pentagon

$n = 5$

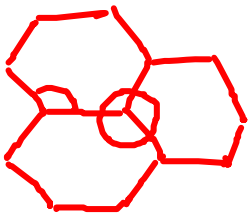
$\frac{(n-2)180}{n}$

$\frac{(5-2)180}{5} = \frac{3 \cdot 180}{5}$ (36)

$= 108°$

No because 108° is not a factor of 360°

b) Regular Hexagon



$n = 6$

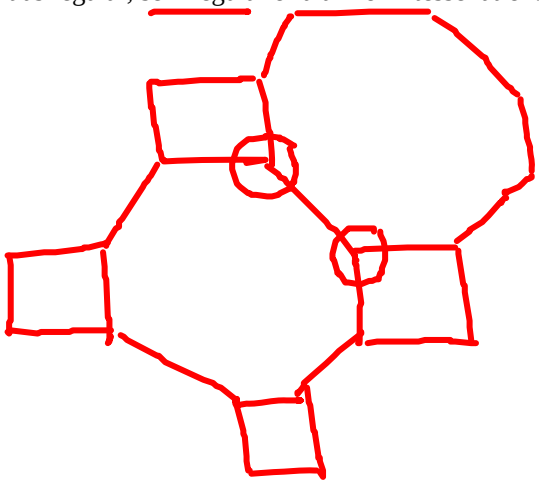
$\frac{(n-2)180}{n}$

$\frac{(6-2)180}{6} = \frac{4 \cdot 180}{6}$ (30)

$= 120°$

Yes because 120° is a factor of 360°

2. Determine whether a regular octagon and a square can be used to create a tessellation. If so, sketch the tessellation and classify it as regular, semiregular or a uniform tessellation.



semiregular uniform