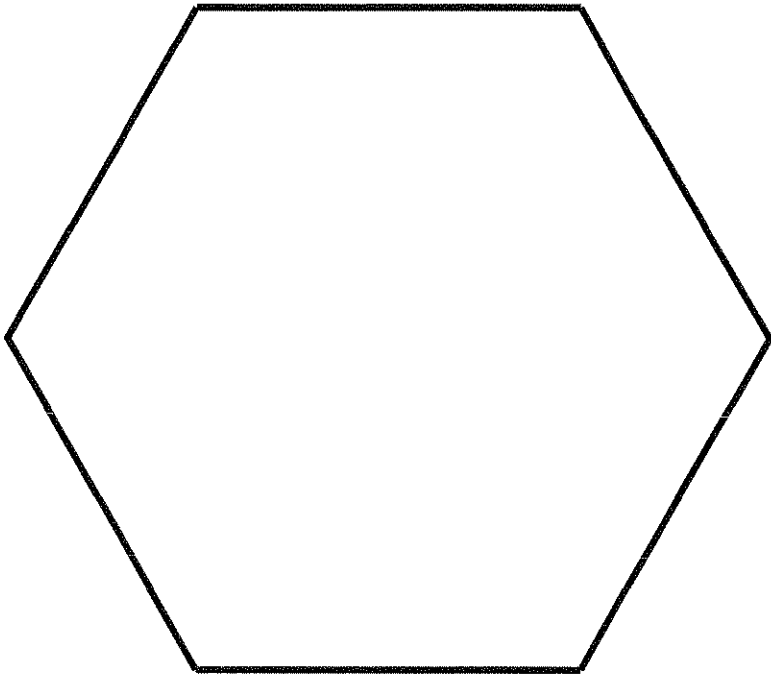
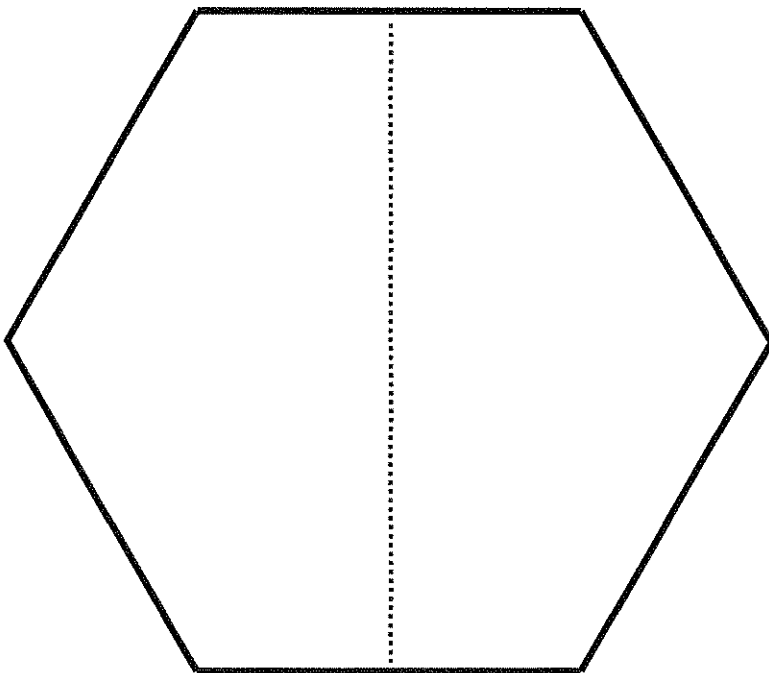


1. This is a regular hexagon; each side has length one unit.

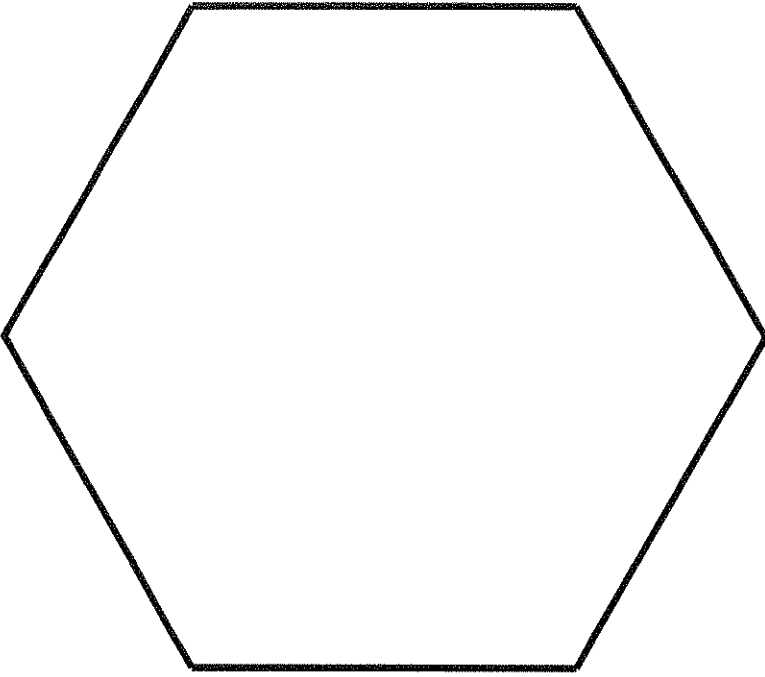
a) What are the angles?



b) What is the height?

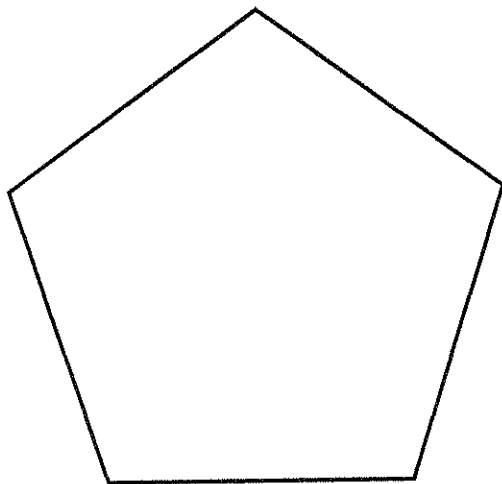


c) What is the area of the hexagon?

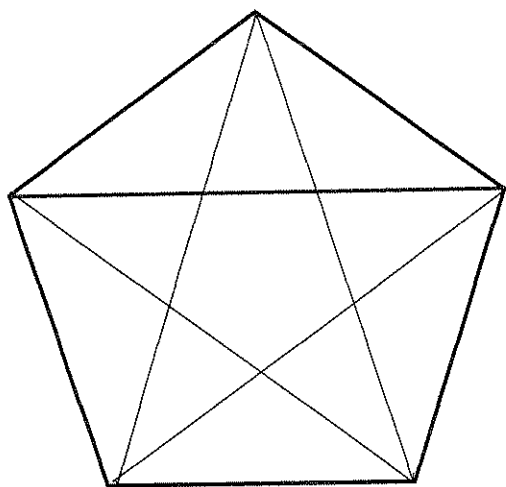


d) Can you tile the plane with regular hexagons?

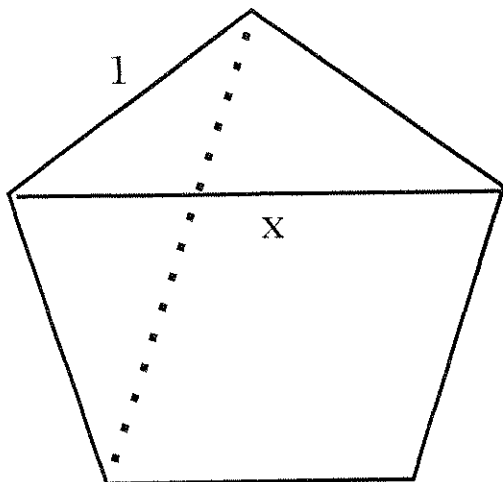
2 . a) What are the angles in a regular pentagon?



b) Fill in all the angles in this pentagram.



3. a) Can you find an equation for x by using similar triangles?

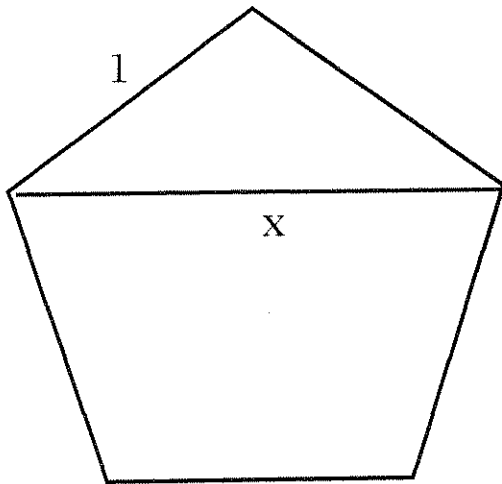


b) Rewrite the equation as a quadratic equation in x .

c) The number x is called the golden mean. Find it by completing the square in the equation above, that is finding numbers c and d so that the equation becomes

$$(x-c)^2 = d.$$

4. Find the area of the pentagon.



5. Can pentagons tile the plane?

