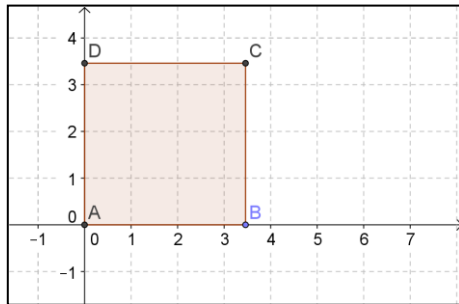


# Problem Solving with GeoGebra

## Construction Problems for GCSE Mathematics

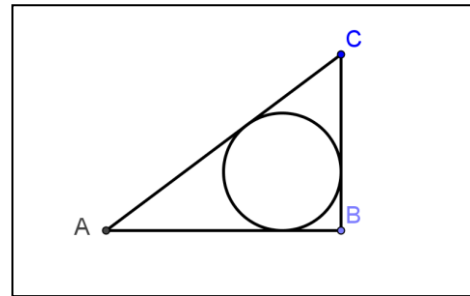
1.



Given a square with variable side construct a rectangle with the same area whose sides are in the ratio 2:1.

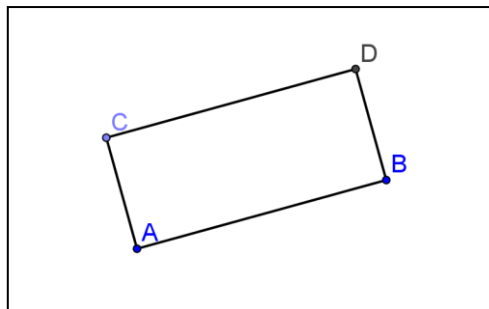
Can you extend this to  $n:1$ ?

2.



Construct the largest circle (in-circle) in a 3-4-5 triangle?  
What is the radius of this circle?  
What about other triangles based on Pythagorean triples?

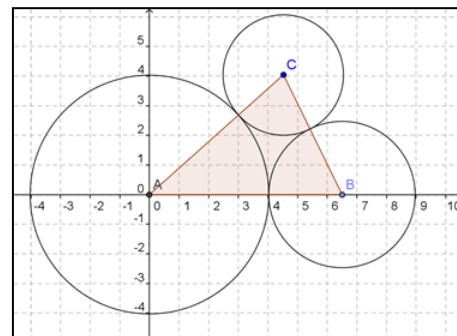
3.



Given two points A and B construct points C and D so that ABCD is a rectangle with both sides independently variable.

Construct a rectangle with twice the area whose sides are in the same ratio.

4.



Construct 3 circles on the vertices of a triangle such that the circles always just touch.