Construction Portfolio Part 3
Carry out these constructions, each one on a separate side of paper.

17: Square area equal to rectangle area
Construct a square whose area equals the area of rectangle ABCD.
18: Medians and Centroid

Construct the 3 medians and the centroid of triangle ABC.
19: Inscribed Equilateral Triangle
Construct an equilateral triangle inscribed in this circle. (First, construct the center of the circle!)
20: Inscribed Circle in Kite

Construct a circle inscribed in kite ABCD.
21: *Incircles and Ecircles*

Construct all 3 interior and all 3 exterior angle bisectors, then use these bisectors to construct the circle inscribed in triangle ABC and the 3 circles escribed in triangle ABC (i.e., all 4 circles are tangent to all 3 lines that are the extended sides of ABC).
22: Ratios internal and external

Divide AB internally and externally in the ratio $5:2$, i.e., construct two points P and Q for which $|AP/BP| = |AQ/BQ| = 5/2$. 
23: Dilation of Triangle

Let $T$ be the dilation with center $O$ that dilates point $A$ to point $D$. Construct points $E = T(B)$ and $F = T(C)$ so that triangle $DEF$ is the dilation by $T$ of triangle $ABC$. 

![Diagram of triangle ABC with dilation to triangle DEF]
24: Common Tangents
Construct all 4 lines that are common tangents of these two circles.
25: **Golden Rectangle**

Given segment AB, construct C, D so that ABCD is a golden rectangle with longer side AB.
26: Regular Pentagon

Given segment AB, construct C, D, E so that ABCDE is a regular pentagon.