Construction 1  Equilateral

\( \Delta \) given a side.

\[ \Delta ABC \text{ is equilateral.} \]

1) Circle, center A, radius AB
2) Circle, center B, radius AB
3) Mark intersection C
Construction 2  Bisect $\overline{AB}$.

1) Circle, center $A$ radius $AB$
2) Circle, center $B$ radius $AB$
3) Mark intersection points.

$\overrightarrow{CD}$ bisects $\overline{AB}$

Why? Symmetry over line $CD$. 
Construction 3  Bisect angle.

Bisection of step 3.

Angles \( \angle AVC \) and \( \angle CVB \) are congruent.

Step 1  Draw a circle with center \( V \)

Step 2  Make segment from intersection points.

Step 3  Bisect the segment.

Step 4  Draw line \( \overline{V1} \) and \( \overline{V2} \).
Square

Angle found by bisecting straight angle.
Construction 4

Given line \( L \) and point \( P \) on \( L \), find a line \( L' \) through \( P \).

Bisect the angle at \( P \).
Construction 5

Given L

and $\overline{P}$ not on L, find line $\perp$ to $L$ through $P$.

1. Draw circle with center $P$.
2. Mark intersection points.
3. Bisect $\overline{AB}$ (Const. 2).
4. Line through $P$ and bisector pt.