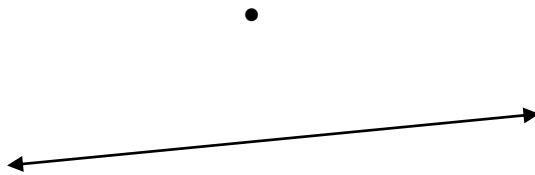
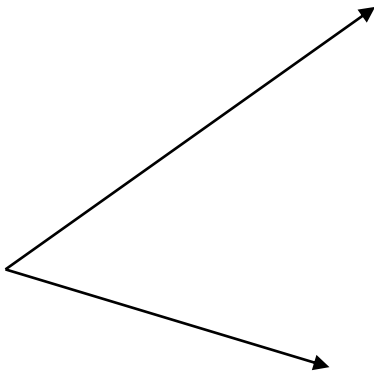
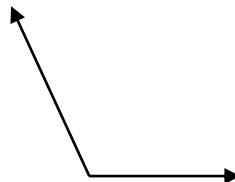


Honors Geometry**Constructions Notes Packet****What is a construction?**

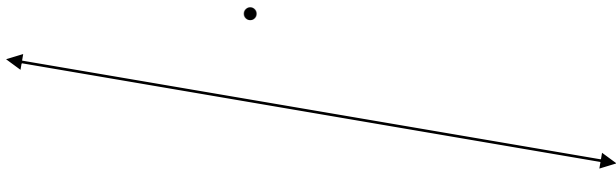
Geometric constructions go back to Greek antiquity. They are often called Euclidean constructions, but they actually predate Euclid. The phrase “compass and straightedge construction” may be more descriptive. Those are the only instruments allowed. The compass establishes equidistance and length, and the straightedge establishes collinearity. All geometric constructions are based on those two concepts.

The compass does not simply draw curves—it cannot be replaced by a circle template/stencil or a coffee can. In fact, the compass is the tool that determines _____. The compass is anchored at a center point, and keeps the pencil at a fixed distance from that point. All points on the curve drawn by a compass are equidistant from the center point. Although rulers are often used as straightedges, the graduation marks may not be used. The straightedge is used only for drawing lines. Given any two distinct points, the straight edge determines _____.

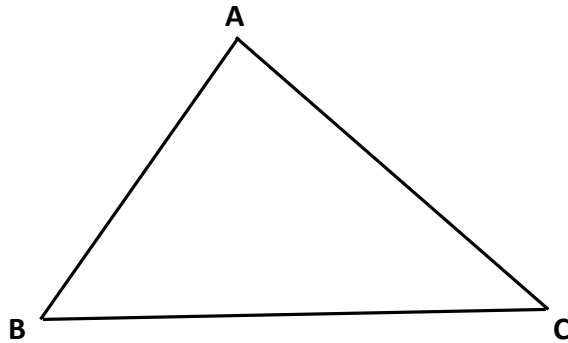
Rulers and protractors have their place in geometry, but these are not construction instruments. All measurements are approximations. Theoretically, compass and straight edge constructions should yield exact representations of geometric objects. In reality, the compass and straightedge also are subject to error—human error (as opposed to manufacturing error of rulers). In A line has zero width, but a drawing of a line does not. However, construction is a theoretical exercise. If we were not limited by the physical imperfections of the instruments, the drawing surface, and the person using them, then construction instruments would render exact results. This is not true of measurement instruments.

Construction #1: Bisect a segment (p.30)**Construction #2: Perpendicular line through point not on a line (p.55)****Construction #3: Bisect an angle (p.40)****Construction #4: Copy an angle (p.39)**

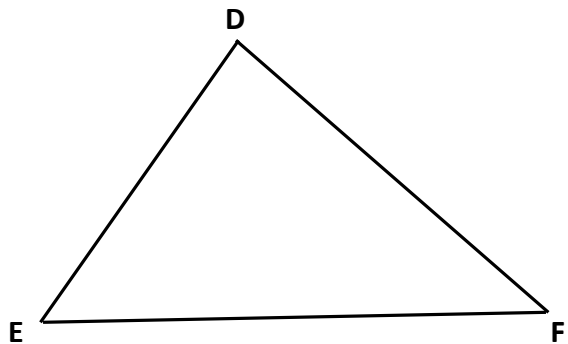
Construction #5: Parallel line through a point not on the line(p.207)



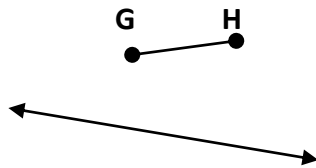
Construction #6: Circumcenter [what creates a circumcenter?]



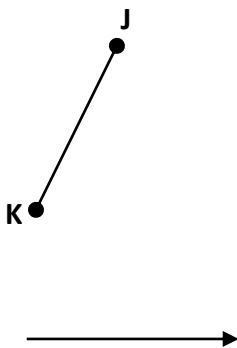
Construction #7: Incenter [what creates an incenter?]



Construction #8: Reflections



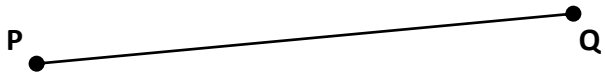
Construction #9: Translations



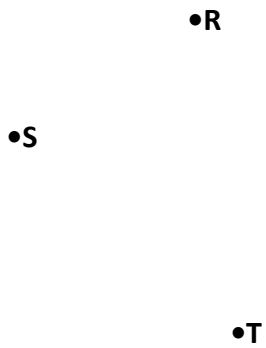
Construction #10: Rotations



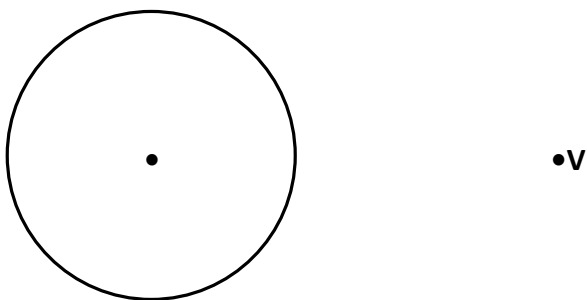
Construction #11: Trisect a segment (p.494)



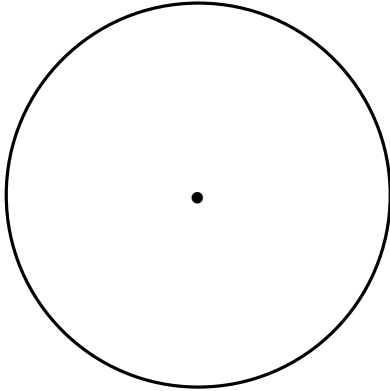
Construction #12: Circle through 3 non-collinear point (p.718)



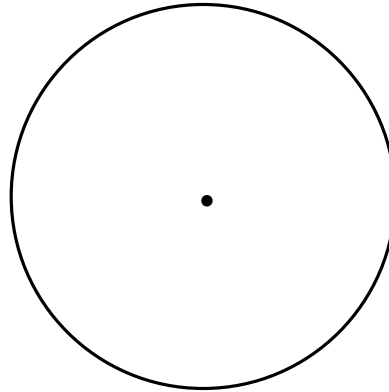
Construction #13: Line Tangent to a circle thru an external point (p.734)



Construction #14: Inscribing Square



Construction #15: Inscribing Regular Hexagon



Construction #16: Rhombus

Construction #17: Parallelogram

Construction #18: Rectangle

***Construction #Extra 1: Congruent triangles using SSS**

***Construction # Extra 2: Congruent triangles using SAS**

***Construction # Extra 3: Congruent triangles using ASA**

***Construction # Extra 4: Medians of a triangle**

***Construction # Extra 5: Altitudes of a triangle**

***Construction # Extra 6 : Inscribing Equilateral Triangle**