

SchoolNova, Math 5c  
Homework 17  
Geometric Constructions  
April 15, 2018

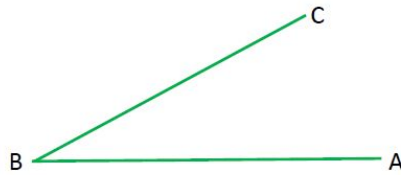
Please provide sufficient details about how you solved the problem. More difficult problems are marked with a \*. If unable to solve a problem, please present your thoughts and any partial solution.

**In the following geometric construction problems, you will be using a straight edge, that is, an unmarked ruler, and a compass.**

1. Given a segment  $\overline{AB}$ , construct a bisector, that is, a line that intersects at its midpoint.



2. Given an angle  $\angle ABC$ , construct its bisector.



3. Construct an angle that is congruent to the given angle  $\angle ABC$ .
4. Construct a line that passes through the given point  $P$ , and is perpendicular to the given line  $l$ .

• P



5. Construct a line that passes through the given point  $P$ , and is parallel to the given line  $l$ .

6. \* **Infinite Series** A football team practices running back and forth on the field in a special way. First they run from one end of the 100 yard field to the other. Then they turn around and run half the previous distance. Then they turn around again, and run half the previous distance, and so on. Suppose they continue the drill. What is the coordinate of the point that they approach?

