

Chapter 3 Constructions Assignment #1

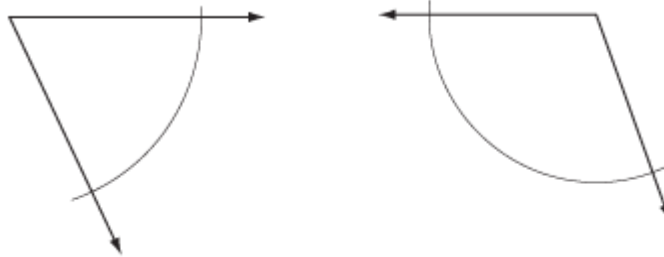
Using only a compass and a straightedge, do the constructions in the following problems.

1. Duplicate the three line segments shown below. Label them as they're labeled in the figures.

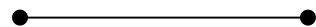


2. Use the segments from #1 to construct a line segment with length $AB + CD$.

3. Duplicate each angle.



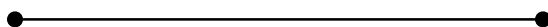
4. Construct an equilateral triangle. Each side should be the length of this segment.
(Remember, you can only use a compass and straightedge.)



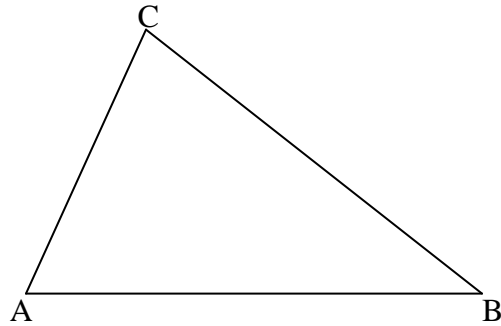
5. Draw and label a line segment \overline{AB} . Construct a perpendicular bisector of \overline{AB} .

6. Draw and label a line segment \overline{QD} . Construct perpendicular bisectors to divide \overline{QD} into 4 congruent segments.

7. Given the line segment below, construct the perpendicular bisector of the segment. Yes, you can only swing arcs on one side of the segment! (You still need two different points to connect, so you'll need to modify our method from the investigation.)



8. In the acute triangle below, construct altitude \overline{CD} with point D on \overleftrightarrow{AB} .



9. Given the line below, construct a perpendicular through point A. You'll have to modify the procedure we used to construct a perpendicular to a line from a point.

