Name_____Date_____Section_____
Applied Geometry
Lesson Ch8 Day 2: Constructing Right Angles & Right Triangles

Recall: Right angles are created by _____lines.

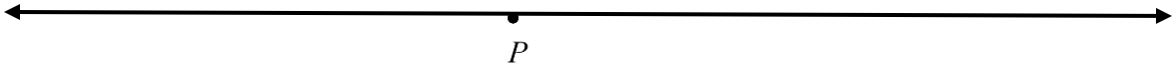
A) First we must remember how to construct perpendicular lines from a point on the line.

1. Place compass on the point P on the line. Swing an arc thru the line on both sides. This is the segment you Will now be working off of.

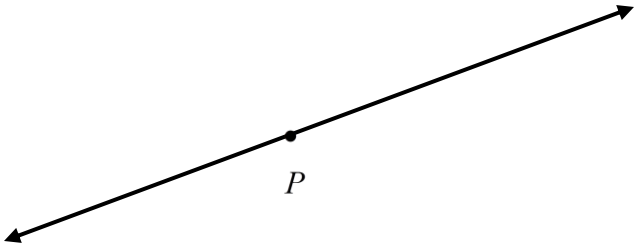
2. Then place compass pt on one endpt of newly created segment and stretch the compass clearly more than half way across, swinging an arc above and below the line.

3. Repeat Step 2 from the other endpt.

4. Connect the intersecting arcs with a straight edge.



B) Now you try by yourself: Construct a perpendicular line from a point on the line.



C) Next we have to remember how to copy a segment.

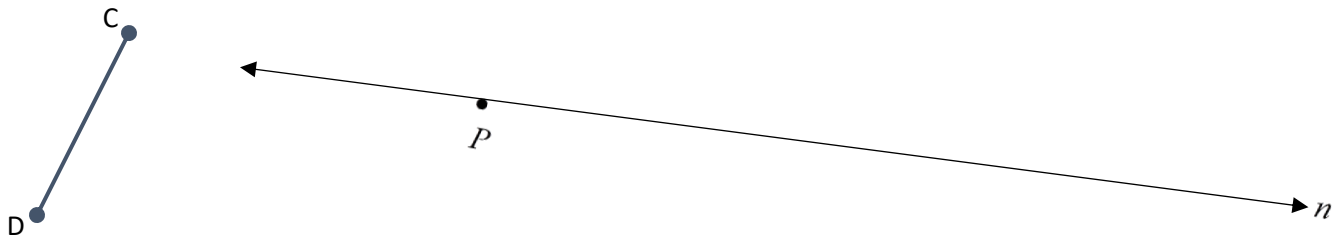
1. Using the compass. Place the compass pt on one end of the given segment and the pencil on the other end and swing an arc. (this is the measure of the segment from endpt to endpt)

2. Maintaining the same distance, place the compass pt on the point P on the given line and swing the arc the same measure. Place another endpt and there is your copied segment.

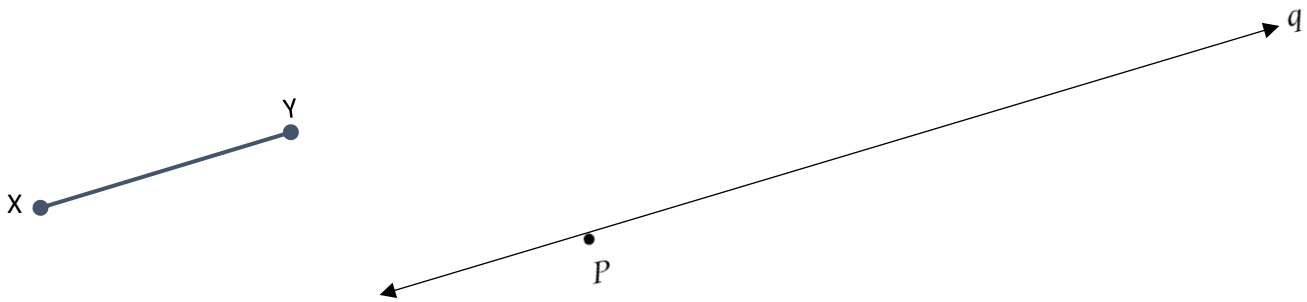
3. Practice a couple of times on the samples below.

COPY SEGMENT $\overline{AB}$ **ONTO GIVEN** *line* m **and label it** $A'B'$ **.**

COPY SEGMENT $\overline{CD}$ **ONTO GIVEN** *line* n **and label it** $C'D'$



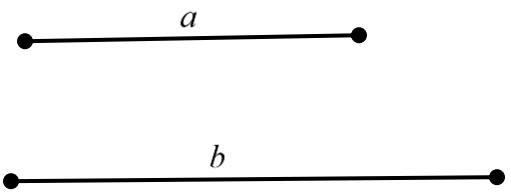
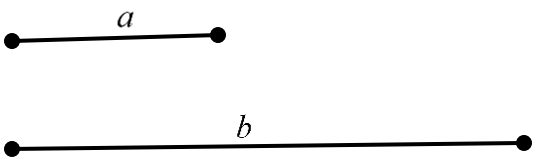
COPY SEGMENT $\overline{XY}$ **ONTO GIVEN** *line* q **and label it** $X'Y'$



Now we want to construct a Right Triangle. So the first thing we need to do is construct a line perpendicular to the given line thru the given point. Then we will use copy a segment construction for the given sides of our right triangle.

Ex#1: Construct a right triangle on the given line with the point being the vertex of the right triangle and having two Side lengths of the legs below.

1. Construct $\perp$ line thru pt on the line- creating right $\measuredangle$.
2. Then copy leg (a) onto one line & label.
3. Copy leg (b) onto the other line & label.
4. Connect the two endpts using a straight edge.



Ex#2: Construct a right triangle on the given line with the point being the vertex of the right triangle and having two Side lengths of the legs below.