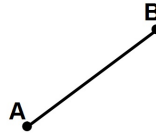
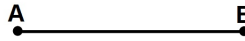


Copying a Line Segment

**Copying a Segment: Must have same length
(not same slope)**

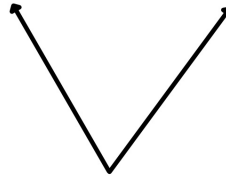
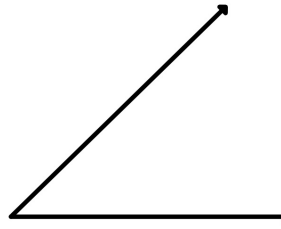
1. Use a straightedge to draw a line, l .
2. Choose a point on line l and label it point P .
3. Place the compass point on point A .
4. Adjust the compass width to the length of AB .
5. Without changing the compass, place the compass point on point P and draw an arc intersecting line l . Label the point of intersection as point Q .



Copying an Angle

Copying an Angle

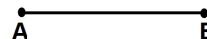
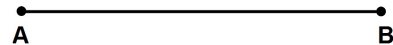
1. Draw a point R that will be the vertex of the new angle and draw a ray from point R which will be one side of the new angle.
2. Place the compass point on the original vertex and draw an arc so it intersects both sides of the angle.
3. Without changing the compass, place the compass on the new vertex R and draw an arc.
4. Open the compass to the length of the two intersections on the original angle and draw an arc.
5. Without changing the compass width, draw this same arc on the new angle.
6. Use a straightedge to draw a ray starting at the vertex to the intersection of these two arcs.



Perpendicular Bisector

1. Adjust the compass to a width greater than half the length of your segment.
2. Place the compass on point A and draw an inward semicircle (so that it is above and below your segment).
3. Draw this same inward semicircle but centered at point B .
4. Use a straightedge to draw a line through the points of intersection of these two arcs (one above your segment and one below your segment).

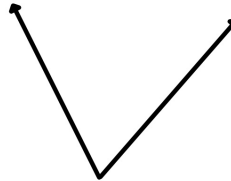
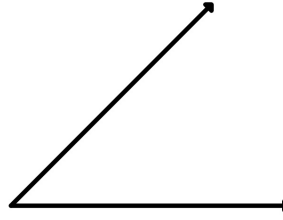
Constructing a Perpendicular Bisector



Angle Bisector

1. Draw an arc centered at the vertex that crosses both sides of the angle.
2. Open the compass to a width of where the arc intersects the angle.
3. Without changing the compass, draw an inward arc centered at one of the first intersection points.
4. Without changing the compass, draw an inward arc centered at the other of the first intersection points.
5. Using the straightedge, draw a ray starting at the vertex that goes through where these two arcs (step 3 and 4) cross.

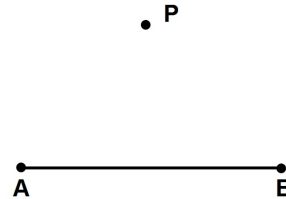
Constructing an Angle Bisector



Perpendicular Line Through a Point

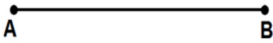
1. Draw an arc centered at the given point that crosses through the line segment twice.
2. Open the compass to a width of the two arc intersections.
3. Without changing the compass, draw a semicircle centered at one of the first intersection points.
4. Without changing the compass, draw that same semicircle but centered at the other first intersection points.
5. Using a straightedge, draw a line through the two semicircle intersections.

Constructing a Parallel Line Through a Point

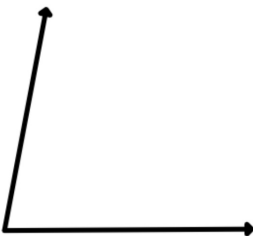


Practice:

1. Copy the following segment.

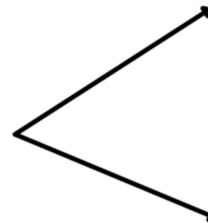


2. Copy the angle.



Practice:

3. Construct an angle bisector.



4. Construct a perpendicular line through the given point.

P

