> NOTE: For every construction that you do, you **MUST** leave the work, arcs, marks, etc. that you make along the way to earn full credit. Do **NOT** erase anything at the end of the problem to make your construction "look better."

Goal: Construct a segment parallel to the given segment through R.   (Parallel segment)

<u>Helpful steps</u>

1. Label the given line PQ
2. Draw line through R from P
3. Place compass on P and draw an arc
4. Duplicate this arc from point R
5. Measure width of angle P
6. Mark off this width on the upper arc, creating S
7. Draw a line through R and S
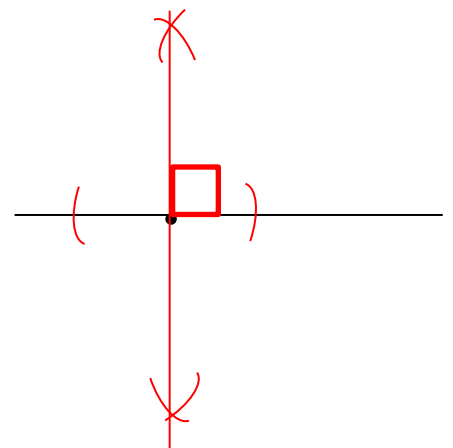8. Label diagram appropriately
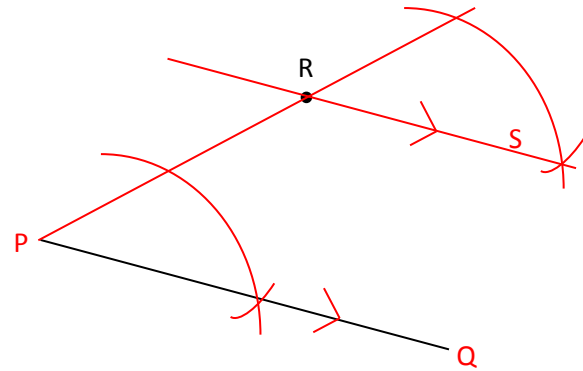
Goal: Construct a perpendicular to a line through a point on a line

(Perpendicular through a point on a line).

<u>Helpful steps</u>

1. With compass on given point, draw an arc on each side on the line, creating 2 intersections
2. Place compass on one of intersections and open the compass wider
3. Draw an arc above or below the line
4. Place compass on other intersection and draw another arc
5. Draw a line connecting point and intersections of both arcs
6. Label diagram appropriately

Goal: Construct a perpendicular to a line through a point not on line.

(Perpendicular through a point not on line)

<u>Helpful steps</u>

1. With compass on given point, draw an arc on each side on the line, creating 2 intersections
2. Place compass on one of intersections and open the compass wider
3. Draw an arc above or below the line
4. Place compass on other intersection and draw another arc
5. Draw a line connecting point and intersections of both arcs
6. Label diagram appropriately
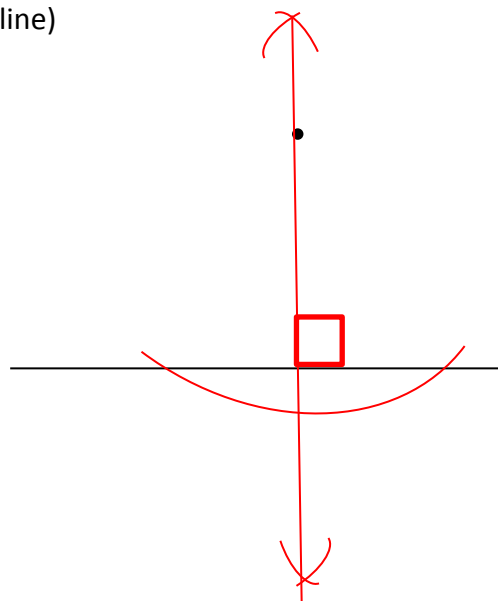
Goal: Construct an isosceles triangle using the given segments.

(Isosceles Triangle)

<u>Helpful steps</u>

1. Mark a point P for one vertex of triangle
2. Measure given base of triangle, with compass
3. From P draw an arc with this measure
4. Mark a point R on the arc
5. Connect P and R to create base of Δ
6. Measure given side length of triangle
7. From P, and then from R, make two arcs that intersect to create Q
8. Connect P and Q, then R and Q
9. Label diagram appropriately

Base: _____

Legs: _____