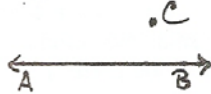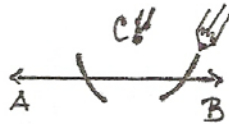## PERPENDICULAR TO A LINE FROM A POINT _OFF_ THE LINE

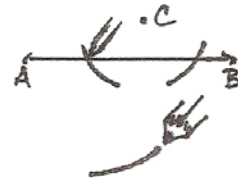*Objective: Construct a perpendicular to $\overrightarrow{AB}$ passing through C.*

STEP 1
Place your compass point on C and sweep an arc of any size that crosses the line twice.
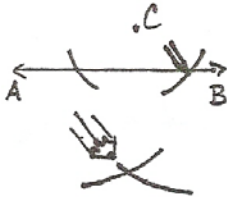

STEP 2
Place the compass point where the arc crossed the line on one side and make an arc ON THE OPPOSITE SIDE OF THE LINE.
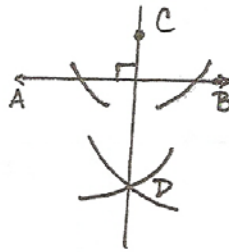

STEP 3
Without changing the span on the compass, place the compass point where the arc crossed the line on the OTHER side and make another arc. Your two new arcs should be crossing on the opposite side of the line.
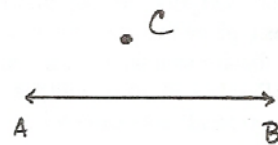

STEP 4
With your straightedge, connect the intersection of the two new arcs to point C. $\overline{CD} \perp \overline{AB}$
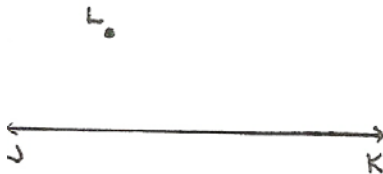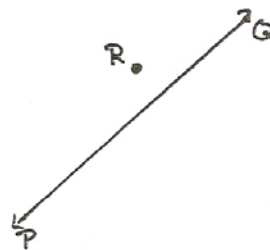

PRACTICE
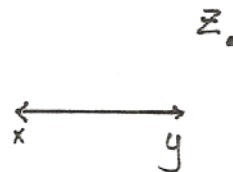1) Construct perpendicular to $\overrightarrow{AB}$ passing through C.

PRACTICE
2) Construct Perpendicular to $\overline{JK}$ passing through L.

3) Construct perpendicular to $\overleftrightarrow{PQ}$ passing through R.

4) Construct perpendicular to $\overrightarrow{XY}$ passing through Z.

PERPENDICULAR TO A LINE FROM A POINT _ON_ THE LINE

**_Objective: Construct a perpendicular to $\overleftrightarrow{AB}$ passing through C._**

STEP 1
Place your compass point on C and sweep an arc of any size that crosses the line twice. You will be creating (at least) a semicircle.
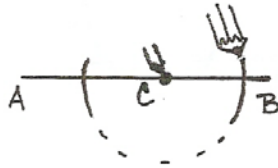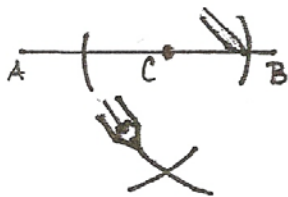

STEP 2
STRETCH THE COMPASS LARGER!! Place the compass po[int] where the arc crossed the line on one side and make a small arc be[ ] the line. (The small arc could be above the line if you prefer.)
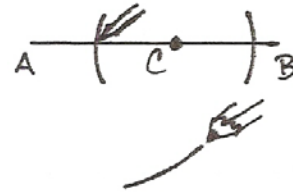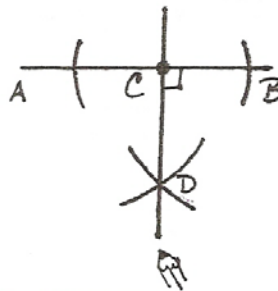

STEP 3
Without changing the span on the compass, place the compass point where the arc crossed the line on the OTHER side and make another arc. Your two small arcs should be crossing.
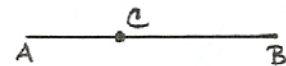

STEP 4
With your straightedge, connect the intersection of the two small arcs to point C. $\overleftrightarrow{CD} \perp \overleftrightarrow{AB}$

PRACTICE
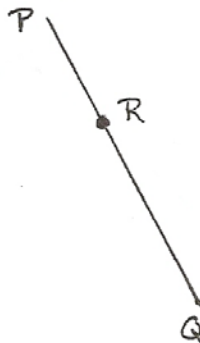1) Construct perpendicular to $\overleftrightarrow{AB}$ passing through C.

PRACTICE
2) Construct Perpendicular to $\overleftrightarrow{JK}$ passing through L.

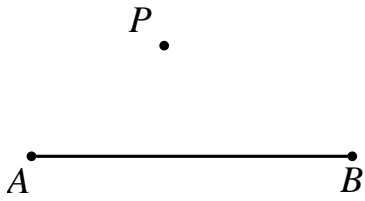3) Construct perpendicular to $\overline{PQ}$ passing through R.
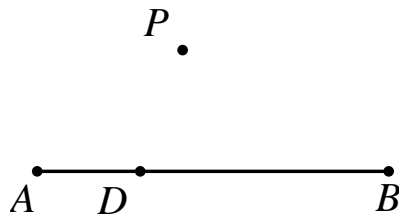

4) Construct perpendicular to $\overleftrightarrow{XY}$ passing through Z.
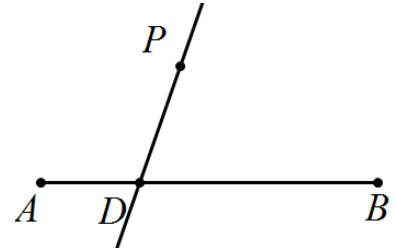
Constructing Parallel Lines
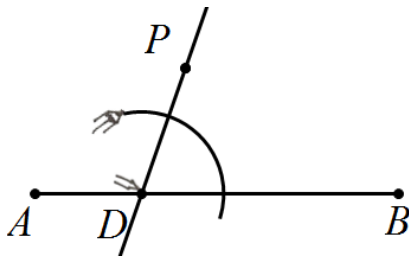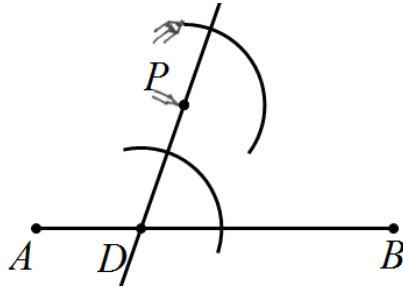
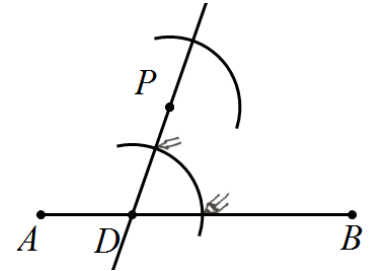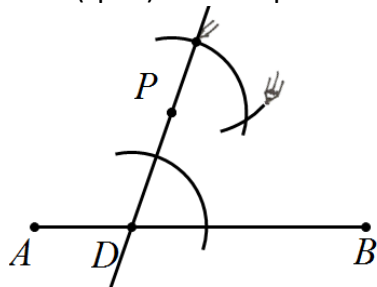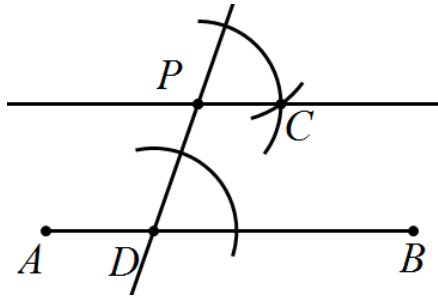|		
Objective: Construct a line parallel to $\overline{AB}$ passing through P. P. A ——————— B	STEP 1 Place a point on line $\overline{AB}$. P. A D ——————— B	STEP 2 With your straight edge, draw line $\overline{PD}$. P A D ——————— B
STEP 3 With your compass draw an arc centerd at D. P A D ——————— B	STEP 4 Using the same compass measure, draw another arc centered at P. P A D ——————— B	STEP 5 With your compass, measure the width (span) of the first arc. P A D ——————— B
STEP 6 Draw a new arc using the same width (span) from step 5. P A D ——————— B	STEP 7 With your straight edge, connect points P and C to form the parallel line. P C A D ——————— B	Practice 1 P. A ——————— B