Geometry Constructions #2
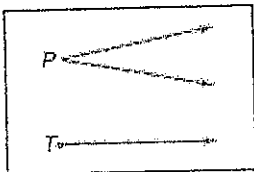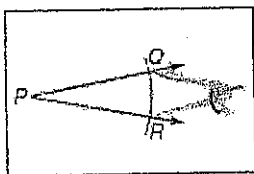
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Copy an Angle

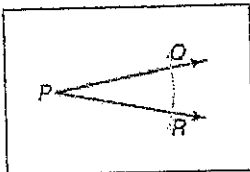**Step 1**
Draw an angle like ∠P on your paper. Use a straightedge to draw a ray on your paper. Label its endpoint T.

Step 2
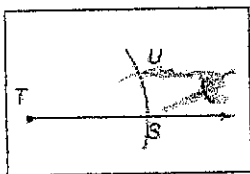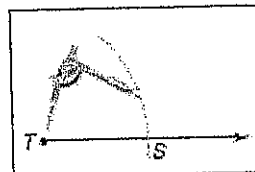Place the tip of the compass at point P and draw a large arc that intersects both sides of ∠P. Label the points of intersection Q and R.

Step 3
Using the same compass setting, put the compass at T and draw a large arc that intersects the ray. Label the point of intersection S.

Step 4
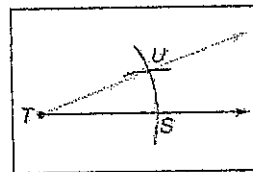Place the point of your compass on R and adjust so that the pencil tip is on Q.

Step 5
Without changing the setting, place the compass at S and draw an arc to intersect the larger arc you drew in Step 3. Label the point of intersection U.
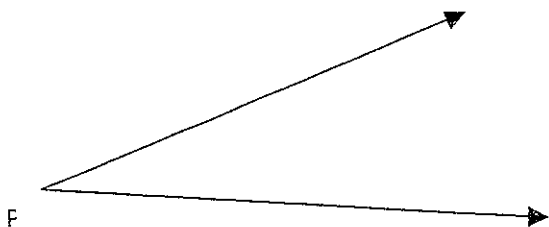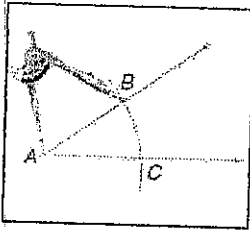
Step 6
Use a straightedge to draw $\overline{TU}$.

Now do the construction yourself, here. Be sure to leave your marks to show that you actually did the construction.
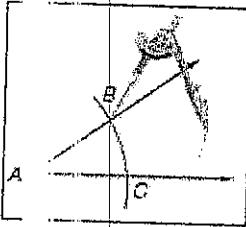
P

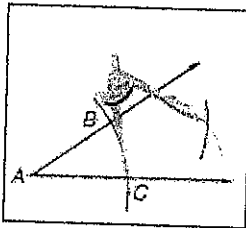Page 35 (animation at ca.ge netryonline.com)

CONSTRUCTION
Bisect an Angle

Step 1
Draw an angle and label the vertex as A. Put your compass at point A and draw a large arc that intersects both sides of ∠A. Label the points of intersection B and C.
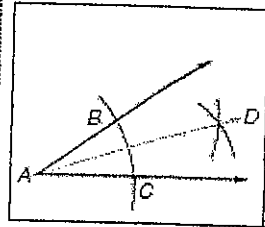
2
n the compass oi if B, draw an in the interior he angle.

Step 3
Keeping the same compass setting, place the compass at point C and draw an arc that intersects the arc drawn in Step 2.

Step 4
Label the point of intersection D. Draw $\overrightarrow{AD}$. $\overrightarrow{AD}$ is the bisector of ∠A. Thus, $m\angle BAD = m\angle DAC$ and $\angle BAD \cong \angle DAC$.

Now do the construction your   f, here. Be sure to leave your marks to show that you actually did the construction.

A