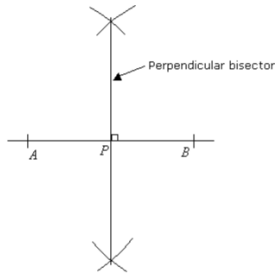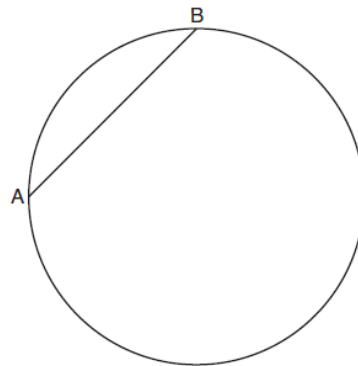Math 6d: Homework 8
Due November 18

NAME: _____

Be prepared to hand in your work.
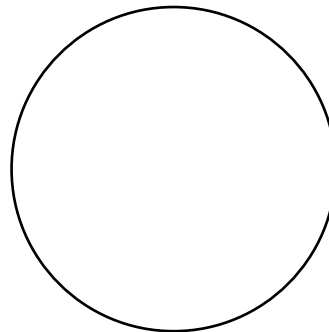
1.   Perpendicular bisector

In the circle below, $\overline{AB}$ is a chord. Using a compass and straightedge, construct a diameter of the circle
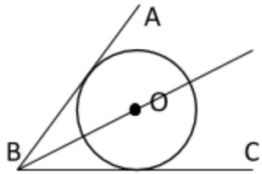
2.   Perpendicular bisector   Given a circle, find its center.
Draw a chord and construct the diameter.
Draw a second chord and construct the diameter.
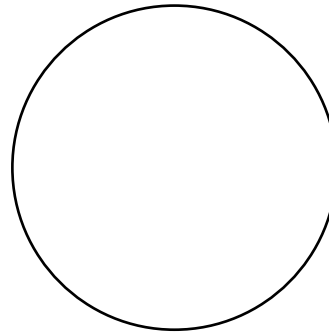The diameters intersect at the center.

Math 6d: Homework 8
Due November 18

3. Angle Bisector and
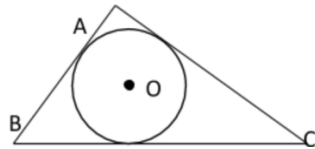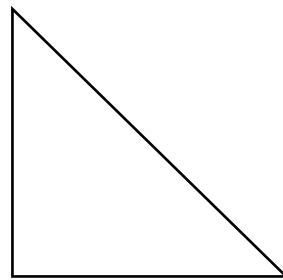   Segment Bisector

Given a circle, find its center.

Draw an angle, whose sides are tangent to the circle.
Bisect the angle.
Then, find the midpoint of the diameter.

4. Angle Bisector

Given a triangle *ABC*, construct a circle inscribed in the triangle.
Bisect two angles.
The angle bisectors intersect at the center of the circle.

5.

Given: $\sim A \rightarrow (C \wedge D)$
$A \rightarrow B$
$\sim B$

Prove: C

Statement	Reason
1. $A \rightarrow B$	Given
2. ~B	Given
3.	
4. $\sim A \rightarrow (C \wedge D)$	Given
5.	
6. C	

6.

Given: $P \wedge Q$
$P \rightarrow \sim (Q \wedge R)$
$S \rightarrow R$

Prove: ~S

Statement	Reason
1. $P \wedge Q$	Given
2.	
3.	
4. $P \rightarrow \sim (Q \wedge R)$	Given
5.	
6.	
7.	
8. $S \rightarrow R$	Given
9. ~S	

7.   Find the measure of $\angle XOC$
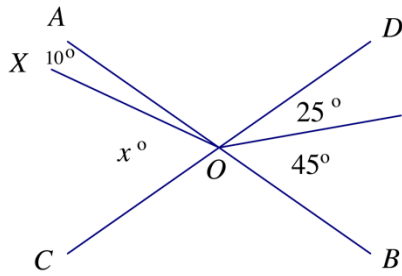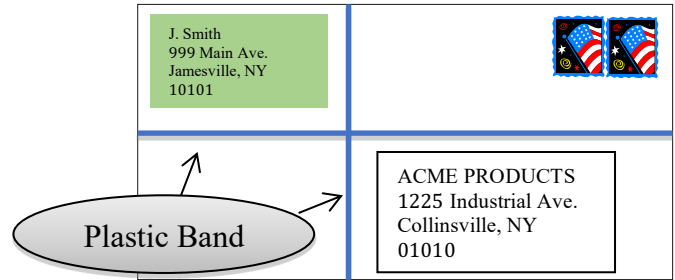

8.   Find the measures of $\angle AOX$, $\angle YOD$, and $\angle DOB$
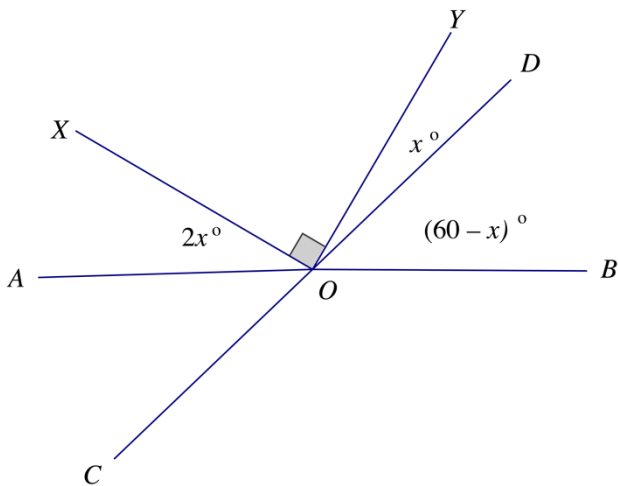
9. The length of a rectangular envelope is $2\frac{1}{2}$ times its width. A plastic band surrounds the front and back of the envelope to secure it as shown in the picture. The plastic band is $39\frac{3}{8}$ inches long. Find the length and width of the envelope.

J. Smith
999 Main Ave.
Jamesville, NY
10101

ACME PRODUCTS
1225 Industrial Ave.
Collinsville, NY
01010

Plastic Band

10. A new park was designed to contain two circular gardens. Garden A has a diameter of 50 m, and garden B has a diameter of 70 m.

   a. If the gardener wants to outline the gardens in edging, how many meters will be needed to outline the smaller garden? (Write in terms of π.)

   b. How much more edging will be needed for the larger garden than the smaller one? (Write in terms of π.)

   c. The gardener wishes to put down weed block fabric on the two gardens before the plants are planted in the ground. How much fabric will be needed to cover the area of both gardens? (Write in terms of π.)