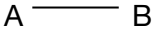
Name: _____

Date: _____

**Math 101: Assignment 6**

1. Name the following:


_____

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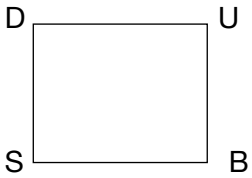


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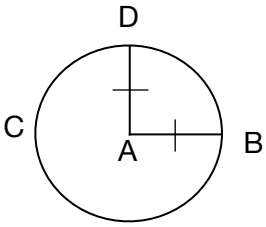


Name the circle, center, and given radii.

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_____

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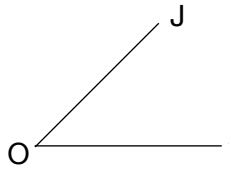


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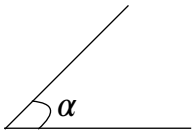


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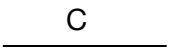


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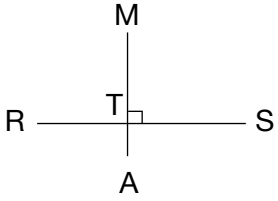


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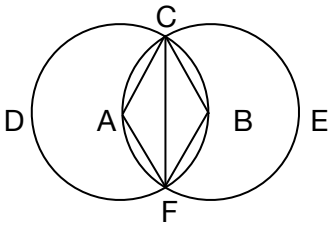
2. If point A is the center of circle CDF and point B is the center of circle ECF, then triangle ACF is an isosceles triangle.




   a. What are we given?

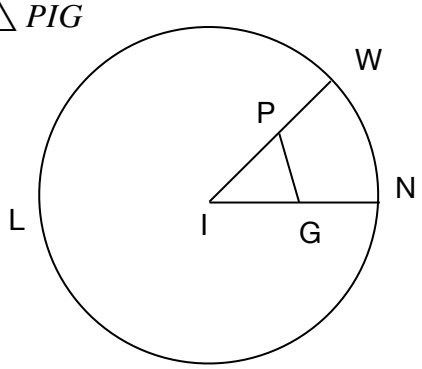
   b. What do we need to prove/show?

   c. What is an isosceles triangle?

   d. Name the line segments in the diagram.

   e. What line segments are equal to each other? Why?

3. Prove the following: If point *I* is the center of circle *WLN* and $\triangle PIG$ is equilateral, then $\overline{PW} = \overline{GN}$.

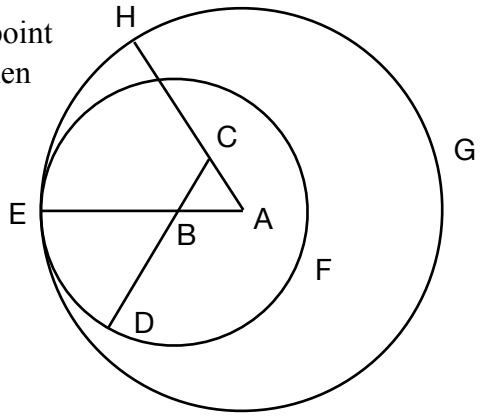



Given:

Prove:

| Statement | Reason |
|---|---|
| $\overline{IW} = \overline{IN}$ | |
| $\overline{IP} + \overline{PW} = \overline{IG} + \overline{GN}$ | |
| $\overline{IP} + \overline{PW} = \overline{IP} + \overline{GN}$ | |
| $\overline{IP} + \overline{PW} - \overline{IP} = \overline{IP} + \overline{GN} - \overline{IP}$ | |
| $\overline{PW} = \overline{GN}$ | |

4. Prove the following: If point B is the center of circle FED and point A is the center of circle GHE and triangle ABC is equilateral, then $\overline{CH} = \overline{BD}$.




Given:

Prove:

| Statement | Reason |
|---|---|
| $\overline{AE} = \overline{AH}$ | |
| $\overline{AB} + \overline{BE} = \overline{AC} + \overline{CH}$ | |
| $\overline{AB} + \overline{BE} = \overline{AB} + \overline{CH}$ | |
| $\overline{BE} = \overline{CH}$ | |