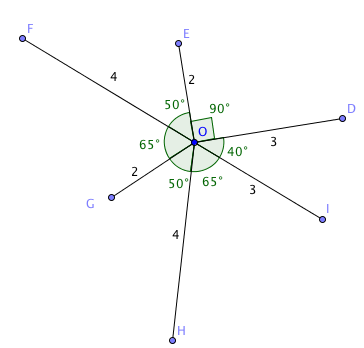
**Activity 2.1.2 Properties of Congruence**

****

1. In the diagram at the right distances and angle measures are given:

a. Name pairs of congruent segments:

\_\_\_\_\_\_\_ \_\_\_\_\_\_\_

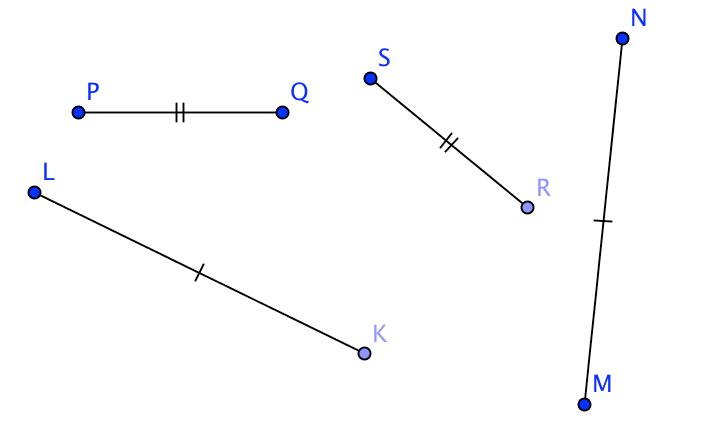
b. Name pairs of congruent angles:

*FOE* \_\_\_\_\_\_ *HOI* \_\_\_\_\_

c. Find equal measures:

*OE* = \_\_\_\_\_\_\_\_\_

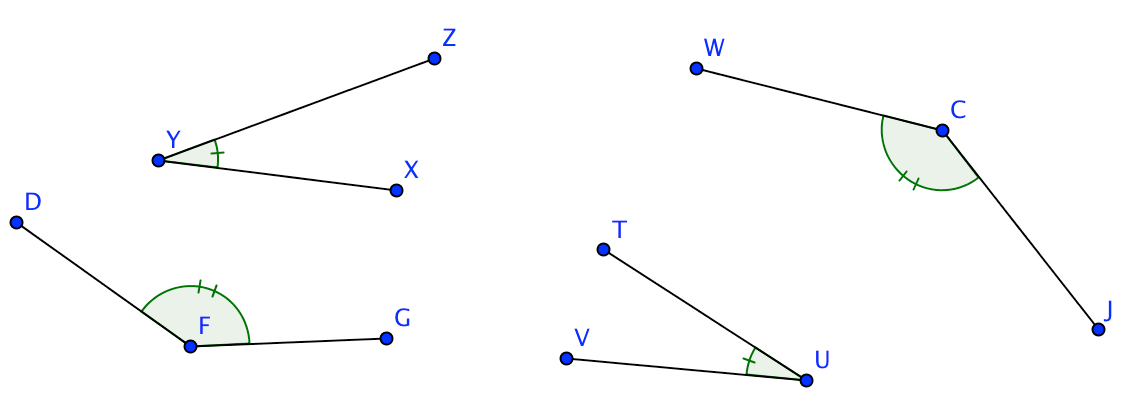
m *GOH* = m \_\_\_\_\_\_



1. Fill in the blanks:

a. If *KL* = *MN*   
  
then \_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

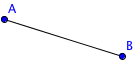
b. If   
  
then \_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_



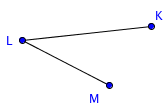
c. If m *XYZ* = m *TUV*   
  
then \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

d. If *DFG* *WCJ*   
  
then \_\_\_\_\_\_\_ = \_\_\_\_\_

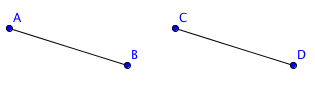
1. **The Reflexive Property**: Any number is equal to itself, that is *a* = *a*.



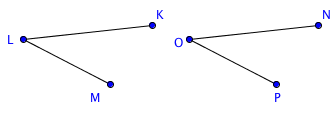
1. Does the reflexive property apply to congruent segments?   
   Is it true that ? Explain.



1. Does the reflexive property apply to congruent angles?  
   Is it true that *KLM* *KLM*? Explain.
2. The **Symmetric Property**: We can switch the expressions on the left and right sides of an equation, that is if we know that *a* = *b,* then we can conclude that *b* = *a*.



1. Does the symmetric property apply to congruent segments? Is it true that if   
   then ? Explain.



1. Does the symmetric property apply to congruent   
   angles? Is it true that if *KLM* *NOP,*   
   then *NOP* *KLM*? Explain.
2. The **Transitive Property:** Two things equal to the same thing are equal to each other, that is if we know that *a* = *b* and that *b* = *c,* then we can conclude that *a* = *c*.
3. Does the transitive property apply to congruent segments? Is it true that if   
   and , then ? Explain.
4. Does the transitive property apply to congruent angles? Is it true that if   
   and *NOP* *QRS*, then ? Explain.

