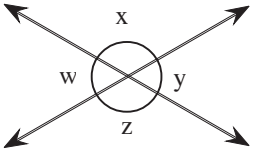
Name _____ Class _____ Date _____

Practice 10-2

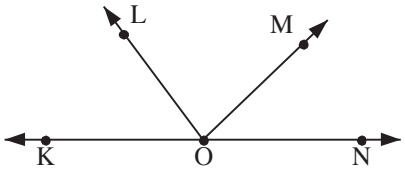
Adjacent Angles

1. Check each angle that is adjacent to ∠w.



- ❑ A. ∠z
- ❑ B. ∠y
- ❑ C. ∠x

2. Which of these is a pair of adjacent angles?

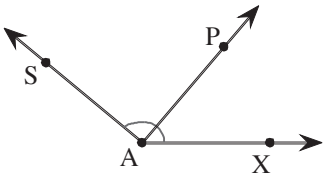


- ❍ A. ∠KOL and ∠MON
- ❍ B. ∠KOM and ∠LON
- ❍ C. ∠LOM and ∠LON
- ❍ D. ∠KOL and ∠LOM

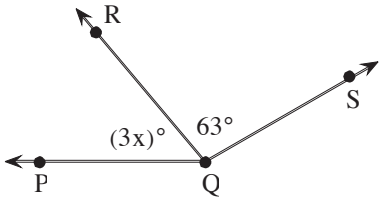
3. Given the measure of two of the angles, find the measure of ∠SAP. Simplify your answer.

∠SAX = 136

∠PAX = 57

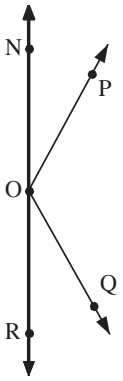


4. The measure of ∠PQS is 150°. What is the value of x? Simplify your answer.



(The figure is not shown to scale.)

5. a) **Writing** Which of these is a pair of adjacent angles?

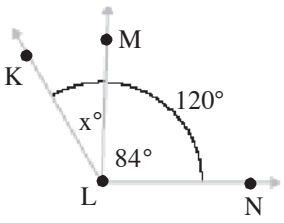


- ❍ A. ∠NOP and ∠QOR
- ❍ B. ∠NOQ and ∠POR
- ❍ C. ∠NOP and ∠POQ
- ❍ D. ∠NOQ and ∠POQ

b) Are there any points that all the adjacent angles in the figure share? If so, state what they are. If not, explain why not.

6. **a) Reasoning** Find the value of x in the figure.

   b) Explain how you know your answer is reasonable.

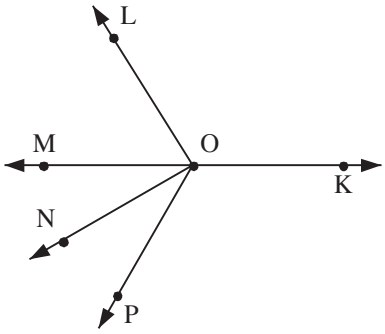


(The figure is not shown to scale.)

7. **Error Analysis** Dexter needs to find each angle in this figure that is adjacent to ∠LON. He incorrectly claims that only ∠LOM is adjacent to ∠LON.

   a) Check each angle that is adjacent to ∠LON.

   - ❑ A. ∠MOP
   - ❑ B. ∠KOP
   - ❑ C. ∠KOL
   - ❑ D. ∠MON
   - ❑ E. ∠KON
   - ❑ F. ∠LOP
   - ❑ G. ∠NOP
   - ❑ H. ∠LOM



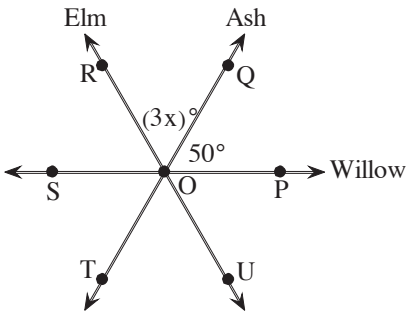
   b) Why is Dexter's claim incorrect?

   - ❍ A. ∠LOM is not adjacent to ∠LON. They share a vertex and have no interior points in common, but they do not share a side.
   - ❍ B. ∠LOM is not adjacent to ∠LON. They share a side and have no interior points in common, but they do not share a vortex.
   - ❍ C. ∠LOM is adjacent to ∠LON, but other angles are also adjacent to LON.
   - ❍ D. ∠LOM is not adjacent to ∠LON. They share a vertex and a side, but they also have interior points in common.

8. **Street Layout** Three streets, Willow, Ash, and Elm, all share an intersection, labeled O in the figure. The measure of the acute angle between Willow and Ash, ∠POQ, is 50°. The measure of ∠POR is 107°.

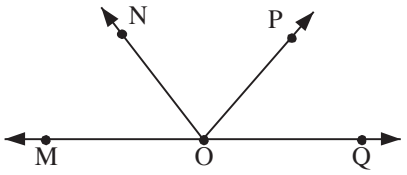
   a) What is the value of x?

   b) Explain how the measures of the angles let you check your work.



(The figure is not shown to scale.)

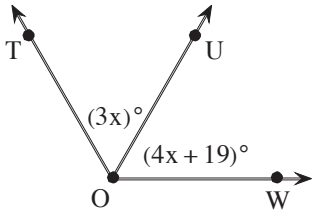
9. a) Open-Ended Which of these is a pair of adjacent angles? Check all that apply.



- ❑ A. ∠MON and ∠POQ
- ❑ B. ∠MOP and ∠NOQ
- ❑ C. ∠NOP and ∠NOQ
- ❑ D. ∠MON and ∠NOQ
- ❑ E. ∠MOP and ∠POQ
- ❑ F. ∠MON and ∠NOP

b) Draw a figure that has at least three pairs of adjacent angles. Name the pairs of adjacent angles.

10. The measure of ∠TOW is 145°. What is the value of x? Give the measures of the angles.

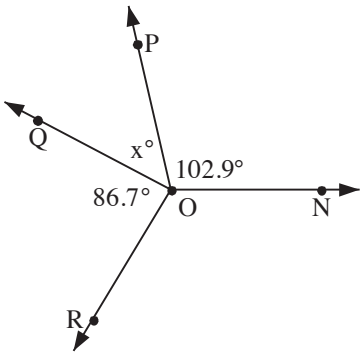


(The figure is not shown to scale.)

11. a) Challenge If the measure of ∠NOQ is 152.2°, what is the value of x?

b) What are the measures of ∠POR and ∠NOR?

c) Explain how you can check to make sure your answers are correct.

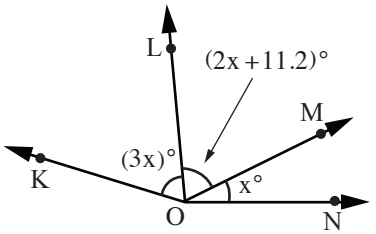


12. a) Challenge In the figure, the measure of KOM is 107.7°. What is the value of x?

b) What is the measure of ∠KOL? Simplify your answer.

c) What is the measure of ∠LOM? Simplify your answer.

d) What is the measure of ∠MON? Simplify your answer.



(The figure is not shown to scale.)

e) What is the measure of ∠LON? Simplify your answer.

f) What is the measure of ∠KON? Simplify your answer.