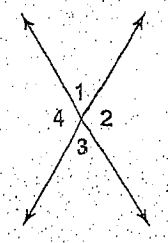
Name _____ Class _____ Date _____

Reteaching 7-1

Pairs of Angles

- *Vertical angles* are pairs of opposite angles formed by two intersecting lines. They are congruent.

  Example 1: $\angle 1$ and $\angle 3$, $\angle 4$ and $\angle 2$



- *Adjacent angles* have a common vertex and a common side, but no common interior points.

  Example 2: $\angle 1$ and $\angle 2$, $\angle 1$ and $\angle 4$

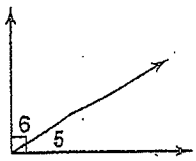
- Two *supplementary angles* form a 180° angle.

  Example 3: $\angle 1$ and $\angle 4$ are supplementary angles. $\angle 3$ is also a supplement of $\angle 4$.

If you know the measure of one supplementary angle, you can find the measure of the other. → If $m\angle 4$ is 120°, then $m\angle 1$ is 180° − 120°, or 60°.

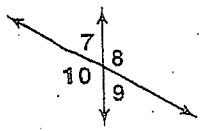
- Two *complementary angles* form a 90° angle.

  Example 4: $\angle 5$ and $\angle 6$ are complementary angles. $\angle 6$ is a complement of $\angle 5$.

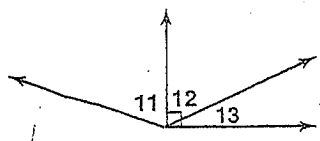


If you know the measure of one complementary angle, you can find the measure of the other. → If $m\angle 5$ is 30°, then $m\angle 6$ is 90° − 30°, or 60°.

Use the diagrams at the right for Exercises 1–5.



1. Vertical angles: $\angle 7$ and _____
2. Adjacent angles: $\angle 10$ and _____
3. Supplementary angles: $\angle 8$ and _____
4. Complementary angles: $\angle 12$ and _____
5. Vertical angles: $\angle 8$ and _____



Find the measure of the supplement of each angle.

6. 38° _____
7. 65° _____
8. 120° _____

Find the measure of the complement of each angle.

9. 25° _____
10. 18° _____
11. 40° _____

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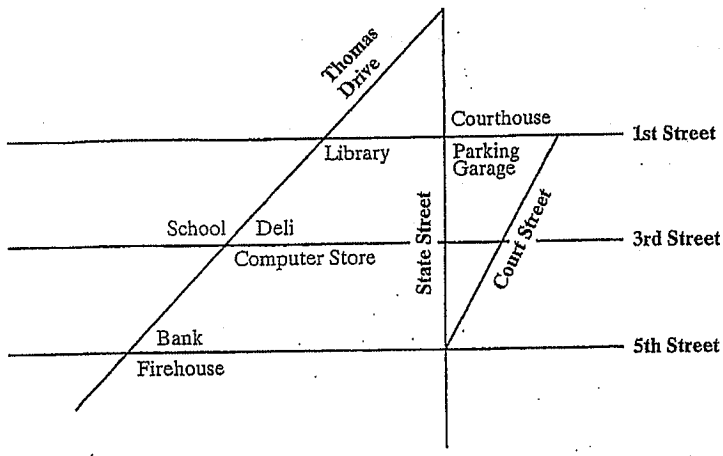
Name _____ Class _____ Date _____

Enrichment 7-1

Pairs of Angles

Critical Thinking



1. Which streets appear to be parallel?

_____

2. Which street runs perpendicular to 3rd Street?

_____

3. The post office forms a vertical angle to the library. Draw it on the map.

_____

4. The Ice Cream Parlor forms a supplementary angle with the bank. Draw it on the map.

_____

5. The police station sits on the corner of State Street and 1st Street, across from and on the same side of 1st Street as the Courthouse. Draw it on the map. What type of angle measurement do the Courthouse and the police station form?

_____

6. The two streets where the school sits form a 135° angle. What is the angle measurement of the two streets where the bank is located?

_____

7. Which place or places are located on the same angle measurement as the firehouse?

_____

_____

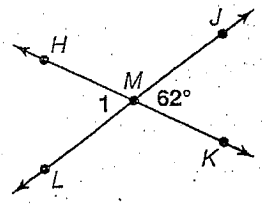
Name _____ Class _____ Date _____

Practice 7-1

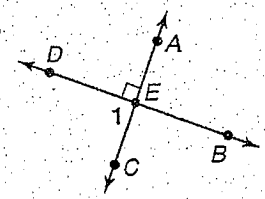
Pairs of Angles

Name a pair of vertical angles and a pair of adjacent angles in each figure. Find $m\angle 1$.

1.



2.



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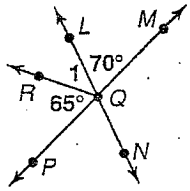
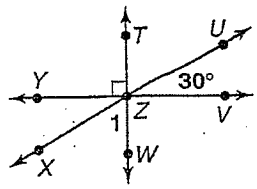


4.



Find the measure of the supplement and the complement of each angle.

5. 10°

6. 42.5°

7. 80°

Use the diagram at the right for Exercises 8–12. Decide whether each statement below is true or false.

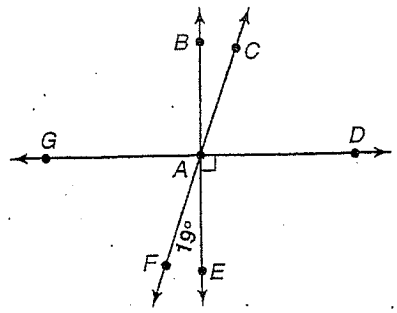
8. $\angle GAF$ and $\angle BAC$ are vertical angles. _____

9. $\angle EAF$ and $\angle EAD$ are adjacent angles. _____

10. $\angle CAD$ is a supplement of $\angle DAF$. _____

11. $\angle CAD$ is a complement of $\angle EAF$. _____

12. $m\angle DAF = 109°$ _____



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