**Directions: For each of the following, create a diagram that represents the problem. Then set up an equation and solve for x and the measures of the angles. Show all work.**

1. The measures of two vertical angles are expressed as 6*x* and 2*x* + 80. What is the measure in degrees of each angle?
2. The measure of an angle is 15 more than its complement. What is the measure in degrees of both angles?
3. The measure of an angle is twice the measure of its supplement. What is the measure in degrees of both angles?
4. If the measure of angle 2 is 106 degrees, find the measures of angles 1, 3, and 4.



1. Using the figure at the right, name



1. A pair of supplementary angles
2. A pair of complimentary angles
3. A pair of vertical angles

6) Given:  is the bisector of . Find the measure of  if =