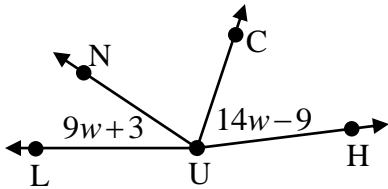
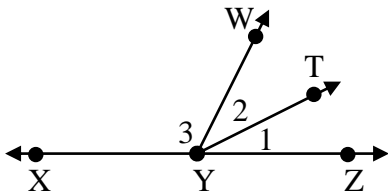


1.  $\overline{UC}$  is the angle bisector of  $\angle NUH$  and  $m\angle LUH = 31w + 15$ . Find  $m\angle NUH$ .

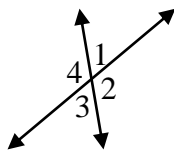


Use the diagram below for questions 3 and 4:



2. If  $\overline{YT}$  bisects  $\angle WYZ$  and  $m\angle XYW$  is four times as large as  $m\angle 1$ , what is the measure of  $\angle 3$ ?
3. In the diagram above, if  $\angle 1 \cong \angle 2$ ,  $m\angle 1 = 3x + y$ , and  $m\angle 2 = y + 90$ , find  $x$ .

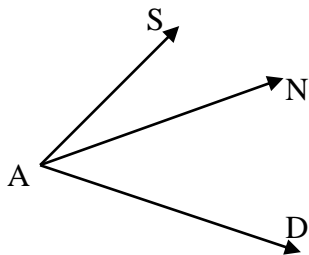
Use the diagram below for questions 4 and 5:



4. Solve for  $x$  if  $\angle 1 = x^2$  and  $\angle 3 = 3x + 10$
5. Solve for  $y$  if  $\angle 2 = y^2 + 50$  and  $\angle 3 = 146 - 8y$

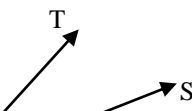
Use the diagram below for questions 6 and 7:

6. Find the value(s) of  $x$  in the given diagram if  $\angle SAN = x^2$ ,  $\angle DAN = 5x + 17$ , and  $\angle SAD = 3x + 20$



7. In the diagram above: If  $\overline{AN}$  bisects  $\angle SAD$ ,  $\angle SAN = 2x - 3y$ ,  $\angle DAN = x + y$ , and  $m\angle SAD = 50^\circ$ , find the value of  $x$  and  $y$ .

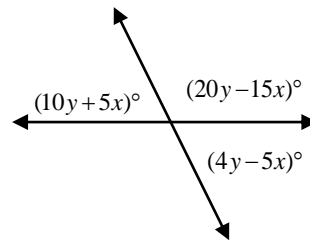
Use the diagram below for questions 8 and 9



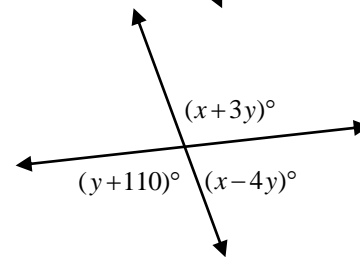
8. Find  $m\angle TAS$  if  $\angle TAS = 7w + 10$ ,  $\angle KAS = 3w + 18$ , and  $\angle TAK = w^2 + 8w - 20$
9. Find the value(s) of  $x$  if  $\angle TAS = x^2 + 2x + 1$ ,  $\angle TAK = 2x^2 - 3x + 37$ , and  $\overline{AS}$  bisects  $\angle TAK$ .

For 10-14, find the values of  $x$  and  $y$  and each angle measure.

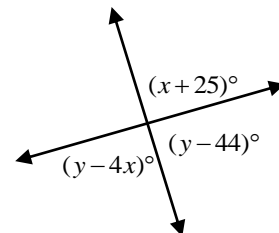
10.



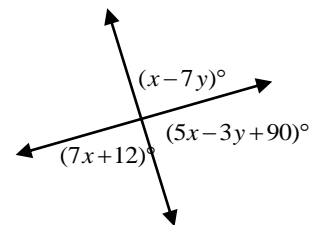
11.



12.



13.



14.

