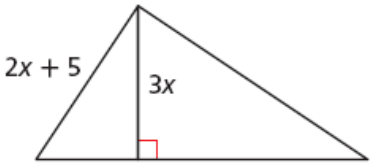
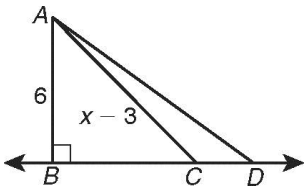
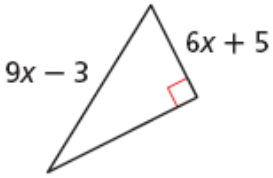
CC Geometry HW#_____ Name_____
Worksheet 3-4

Period_____ Column_____

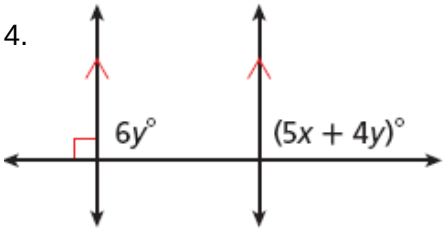
Write and solve an inequality to find the value of *x*.

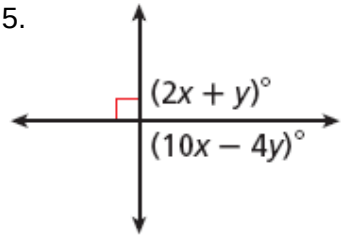
1. 

2. 

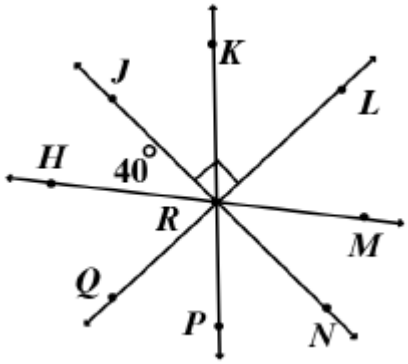
3. 

Write equations and solve for *x* and *y*.

4. 

5. 

6. In the diagram below, $\overrightarrow{RK}$ bisects $\angle JRL$, $\overrightarrow{RJ} \perp \overrightarrow{RL}$, $m\angle JRH = 40$.



a) $m\angle QRN =$

b) $m\angle JRK =$

c) $m\angle NRP =$

d) $m\angle HRQ =$

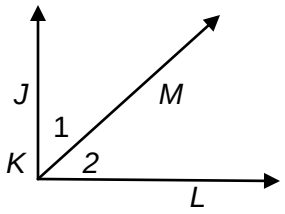
e) $m\angle QRM =$

f) $m\angle HRN =$

7. Complete this proof.

Given: $\overrightarrow{JK} \perp \overrightarrow{KL}$, $\overrightarrow{KM}$ bisects $\angle JKL$

Prove: $m\angle 1 = 45$

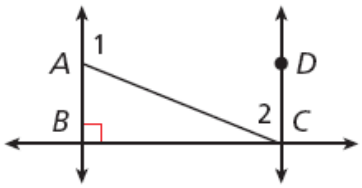


STATEMENTS	REASONS
1. $\overrightarrow{JK} \perp \overrightarrow{KL}$	1.
2. $m\angle JKL = 90$	2.
3. $m\angle 1 + m\angle 2 = m\angle JKL$	3.
4. $m\angle 1 + m\angle 2 = 90$	4.
5. $\overrightarrow{KM}$ bisects $\angle JKL$	5.
6. $m\angle 1 = m\angle 2$	6.
7. $m\angle 1 + m\angle 1 = 90$	7.
8. $2m\angle 1 = 90$	8. substitution
9. $m\angle 1 = 45$	9.

8. Complete this proof.

Given: $\overleftrightarrow{AB} \perp \overleftrightarrow{BC}$, $m\angle 1 + m\angle 2 = 180$

Prove: $\overleftrightarrow{BC} \perp \overleftrightarrow{CD}$



STATEMENTS	REASONS
1. $m\angle 1 + m\angle 2 = 180$	1.
2. $\angle 1$ and $\angle 2$ are supplementary	2.
3.	3. If same-side interior angles are congruent, then lines are parallel
4. $\overleftrightarrow{AB} \perp \overleftrightarrow{BC}$	4.
5. $\overleftrightarrow{BC} \perp \overleftrightarrow{CD}$	5.