

Alpha Honors Geometry, Glawe  
**Q1 Midterm Review- Written Portion**

Name: \_\_\_\_\_

Date: \_\_\_\_\_ P: \_\_\_\_\_

Notes:

Complementary angles are two angles whose sum is  $90^\circ$  (a right angle). Each of the two angles is called the complement of the other.

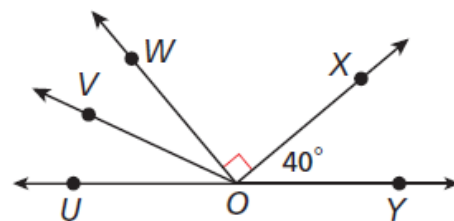
Supplementary angles are two angles whose sum is  $180^\circ$  (a straight angle). Each of the two angles is called the supplement of the other.

ALSO MAKE SURE YOU STUDY ALGEBRA AS WELL IF YOU ARE STILL HAVING TROUBLE WITH THAT, ESPECIALLY FACTORING AND SIMPIFYING RADICALS.

For questions 1 and 2, use the diagram on the right to help solve.

- 1)  $m\angle UOW = 50^\circ$ , and  $\overrightarrow{OV}$  bisects  $\angle UOW$ .  
 What is  $m\angle VOY$ ?

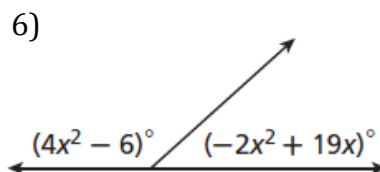
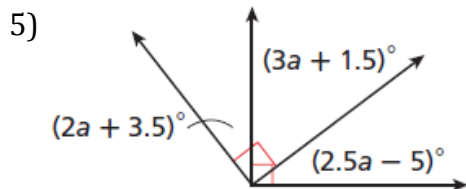
- 2) What is  $m\angle UOX$ ?



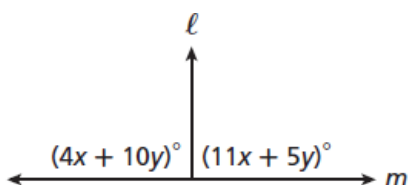
For questions 3 and 4, draw a diagram to help solve.

- 3)  $\overrightarrow{BD}$  bisects  $\angle ABC$ ,  $m\angle ABC = (4x + 5)^\circ$ , and  $m\angle ABD = (3x - 1)^\circ$ .  
 What is the value of  $x$ ?
- 4)  $\overrightarrow{QS}$  bisects  $\angle PQR$ ,  $m\angle PQR = (x^2)^\circ$ , and  $m\angle PQS = (2x + 6)^\circ$ . Find all the possible measures for  $\angle PQR$ .

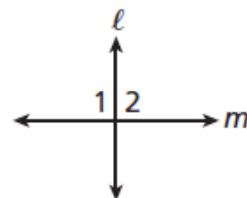
For questions 5 and 6, find the value of the variable and the measure of each angle.



- 7) In the diagram,  $\ell \perp m$ . Find  $x$  and  $y$ .

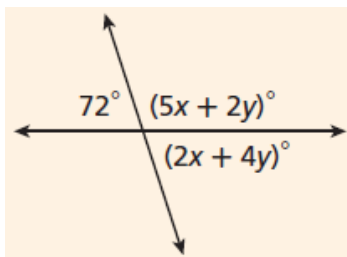


- 8) Given the following diagram, what can you assume? What can't you assume?

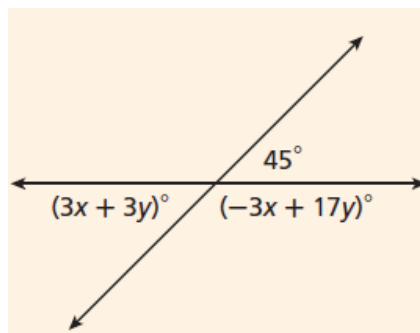


For questions 9-12, solve for x and y.

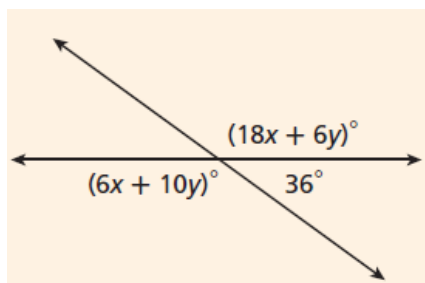
9)



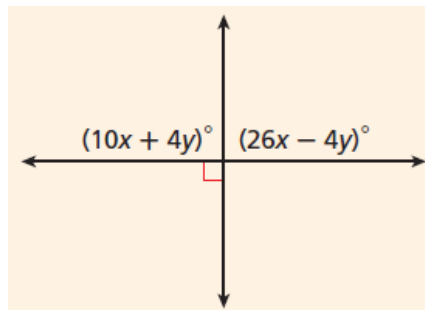
10)



11)



12)



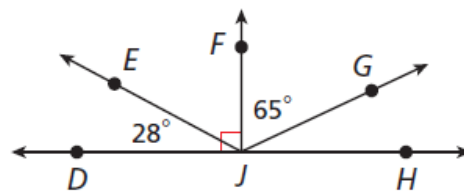
For questions 13-16, find the measure of each angle.

13) the supplement of  $\angle EJF$

14) the supplement of  $\angle GJH$

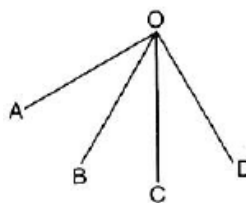
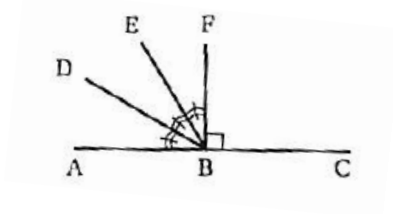
15) the complement of  $\angle FJG$

16) the supplement of  $\angle EJG$



17) Find the measure of  $\angle DBC$ .

18) If  $\overrightarrow{OB}$  and  $\overrightarrow{OC}$  trisect  $\angle AOD$  and  $\overrightarrow{AO} \perp \overrightarrow{OD}$ , find  $m\angle BOD$ .



19)  $\overrightarrow{DG}$  and  $\overrightarrow{DF}$  trisect  $\angle CDE$ .  
 $m\angle CDG = 2x + 7$   
 $m\angle GDF = 5x - 2$   
 $m\angle FDE = 3y + 1$   
 First, solve for x.  
 Then solve for y.

20) Given:  $\overrightarrow{AB} \perp \overrightarrow{BC}$   
 $\overrightarrow{BD}$  bis.  $\angle ABC$ .  
 $m\angle ABD = x + 5y$   
 $m\angle DBC = 2x + 2y + 3$

Find x and y.

