

1. Graph points:  $A(3, -5)$   $B(-1, 6)$
2. Find the components of vector  $\overline{AB}$  :

3. What is  $|\overline{AB}|$  ?

What is  $|\overline{BA}|$  ?

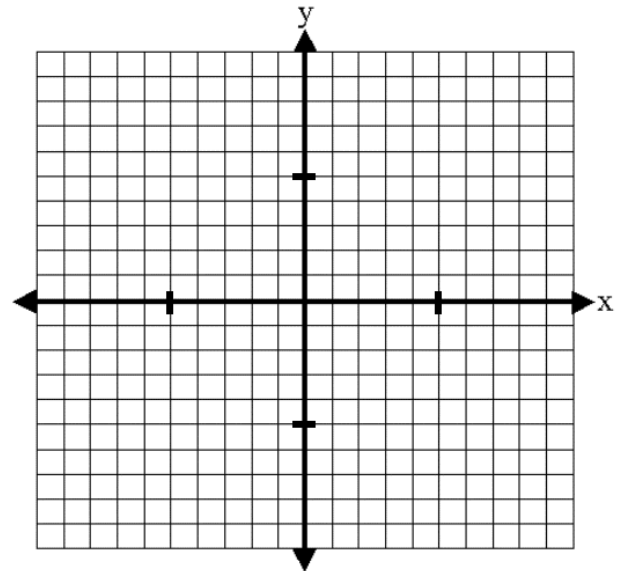
4. Add vector  $\vec{v} = \langle -1, -6 \rangle$  to vector  $\overline{AB}$  on the graph:

5. What are the resultant components for vector  $\vec{u} = \overline{AB} + \vec{v}$  ?  
(Does your answer match if you do the problem graphically or algebraically?)

6. If vector  $\vec{v} = \langle -1, 6 \rangle$ , what is the slope of that vector?

7. What would be the slope of a vector perpendicular to that vector?

8. Give a vector perpendicular to vector  $\vec{v}$ .



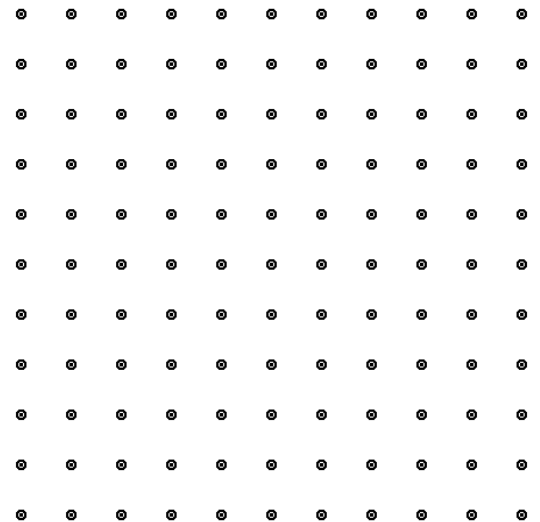
9. A vector begins at  $(8,3)$ . The vector's movement is  $\langle -4,-2 \rangle$ . At what point does the vector end?

10. A vector ends at  $(-2,5)$ . The vector's movement is  $\langle 1,4 \rangle$ . Where does the vector begin?

11. A vector begins at  $(2,6)$ , and ends at  $(-3,-2)$ . What is the vector's movement?

Find the addition of vectors algebraically and graphically. Verify that your answers match.

12.  $2\langle 3,2 \rangle + \langle -2,6 \rangle =$



13. If  $A(2,-4)$ ,  $B(5,-1)$ ,  $\vec{v} = \langle -3,4 \rangle$ , find  $\overline{BA} + \vec{v} =$

Give the resultant vector's components and graph the vector sum and resultant.

