Name: _____

Vectors in the Plane

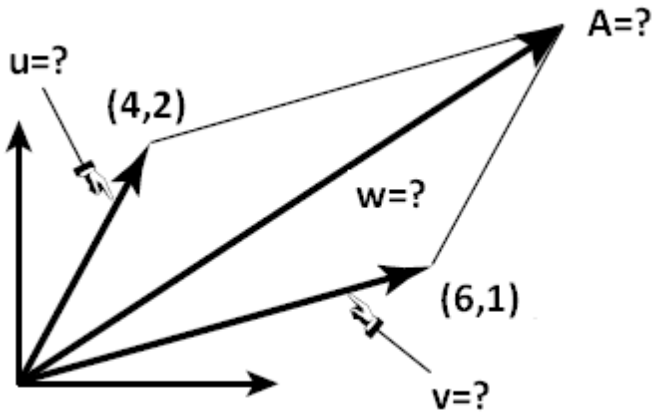
Exercise 1: Find the component form and the magnitude of the vector v given that A is the initial point and B is the terminal point.

1) $A(1,2);B(3,2)$
2) $A(3,3);B(4,5)$
3) $A(0,5);B(4,8)$
4) $A(-1,5);B(15,12)$
5) $A(1,11);B(9,3)$
6) $A(-3,-5);B(5,1)$
7) $A(1,3);B(-8,-9)$
8) $A(6,10);B(6,0)$
9) $A(3,2);B(6,5)$
10) $A(3,7);B(-6,7)$

Exercise 2: Find $u+v, u-v$ and $2u-4v$, then sketch the resultant vector

1) $u=\langle 2,1\rangle, v=\langle 1,3\rangle$
2) $u=\langle 2,3\rangle, v=\langle 0,4\rangle$
3) $u=\langle -5,3\rangle, v=\langle 0,0\rangle$
4) $u=\langle 0,0\rangle, v=\langle 2,1\rangle$
5) $u=\langle 3,4\rangle, v=\langle -5,-1\rangle$
6) $u=\langle 2,-9\rangle, v=\langle -2,9\rangle$
7) $u=\langle 5,4\rangle, v=\langle -3,2\rangle$
8) $u=\langle 3,3\rangle, v=\langle 7,-3\rangle$

Exercise 3: Given the two points (4,2) and (6,1), answer the questions below:



1. Find the component form and length of a vector v
2. Find the component form and length of a vector u
3. Find the component form and length of a vector w
4. Find the coordinates of the point A.