Find the component form of AB. Then find the magnitude of AB.

1. A (2, 4), B (-1, 3)

· 一个大学的问题。

- 2. A (4, -2), B (5, -5)
- 3. A (-3, -6), B (8, -1)

Let $v = \langle 2, -1 \rangle$ and $w = \langle -3, 5 \rangle$. Find u and sketch the vector operations geometrically.

4. u = v + w

- 5. u = v w
- 6. u = 3v

7.
$$u = w - 2v$$

8.
$$u = 2v + 3w$$

9.
$$u = 5w - 2v$$

Find a unit vector for each vector.

10.
$$v = <-3, 4>$$

11.
$$v = <1, 5>$$

Find the direction angle of each vector.

12.
$$u = 2i - 5j$$

2 - (H134)

13.
$$u = -3i - 7j$$

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14.
$$u = 6i - 2j$$

Find the component form of each vector.

Vector Word Problems		
1.	Th Sir a.	e pilot of a plane points his airplane due South and flies with an airspeed of 120 m/s. nultaneously, there is a steady wind blowing due West with a constant speed of 40 m/s. Make a sketch that shows how to find the resultant velocity of the plane. Roughly in what direction is the resultant velocity?
	b.	What is the resultant speed of the airplane?
	b.	After one hour, how far away is the plane from its starting point?
2.	sw	swimmer is able to swim with a speed of 5 m/s in a pool (this is her "water speed".) This same immer goes swimming in a river which has a current flowing to the East with a constant seed of 3 m/s. Assume her water speed is always 5 m/s. What would be her resultant velocity if she tries to swim due East with the current? (Include a vector sketch.)
	b.	What would be her resultant velocity if she were to try to swim due West against the current? (Include a vector sketch.)
	c.	What would be her resultant velocity if she points herself due North straight across the river? (Include a vector sketch.)
3.	A pa.	plane is flying due North at 80 m/s. There is a cross wind of 30 m/s that is blowing due East. Draw a vector diagram showing how these velocities add. Roughly in what direction is the resultant velocity?

b. How fast is the plane flying with respect to the ground?

NAME: ____