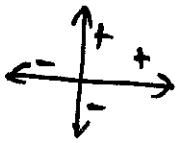
Vector Form conversions (A)

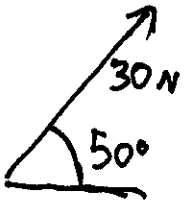
For problems 1-6,

Determine the components of each vector.

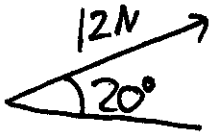
Use the following sign convention:



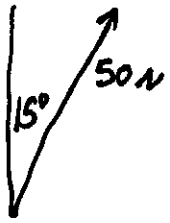
(1)



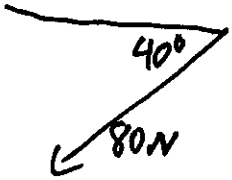
(2)



(3)

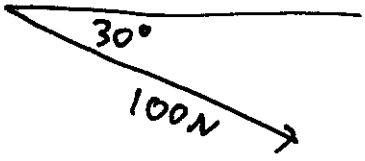


(4)



(5)

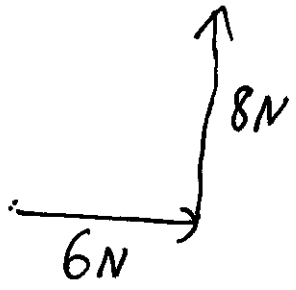
(6)



For problems 7-10,

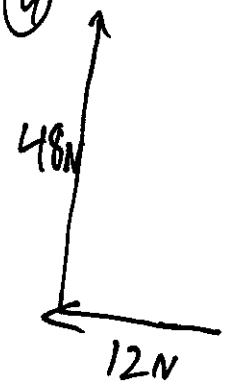
Write the vector in terms of magnitude and direction.

(7)

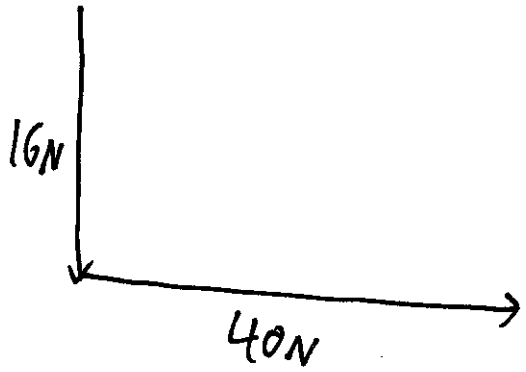


(8)

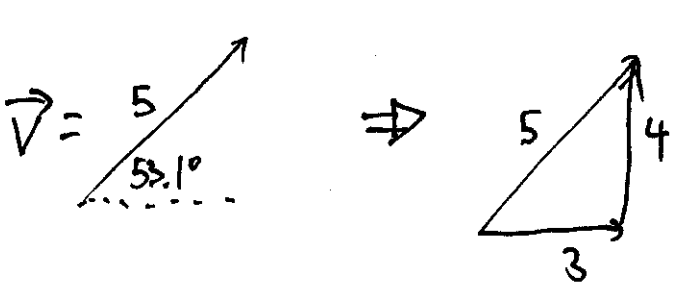
(9)



(10)



Notation of component form:



This vector $\vec{V}$ has a x-component of +3 and a y-component of +4.

How do you write this? There are several options:

- Angle brackets: $\vec{V} = \langle +3, +4 \rangle$
- Matrix Notation: $\vec{V} = [3, 4]$ or $\begin{bmatrix} 3 \\ 4 \end{bmatrix}$
- Unit vector notation: $\vec{V} = 3\hat{\imath} + 4\hat{\jmath}$

↓ The x-component appears in front of $\hat{\imath}$ and the y-component appears in front of $\hat{\jmath}$.

- Ordered-pair notation $\vec{V} = (3, 4)$
- Javascript Object Notation $\vec{V} = \{"x": 3, "y": 4\}$

Of these, in physics, the most commonly used is unit vector notation.

Therefore, write your answer that way $\boxed{\vec{V} = 3\hat{\imath} + 4\hat{\jmath}}$