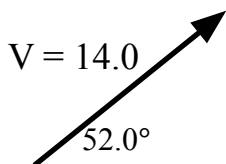


Ph 12 Vector Components

Find the vertical and horizontal components of the following vectors

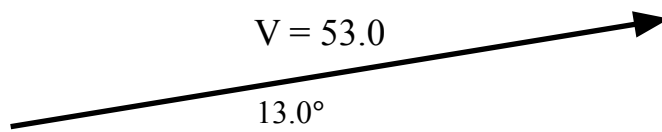
1.



$$V_h = \underline{\hspace{2cm}}$$

$$V_v = \underline{\hspace{2cm}}$$

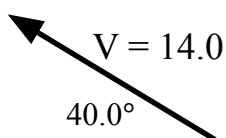
2.



$$V_h = \underline{\hspace{2cm}}$$

$$V_v = \underline{\hspace{2cm}}$$

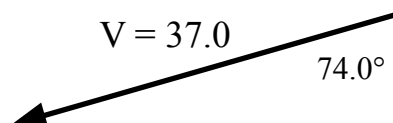
3.



$$V_h = \underline{\hspace{2cm}}$$

$$V_v = \underline{\hspace{2cm}}$$

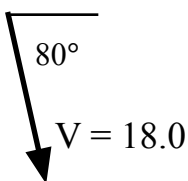
4.



$$V_h = \underline{\hspace{2cm}}$$

$$V_v = \underline{\hspace{2cm}}$$

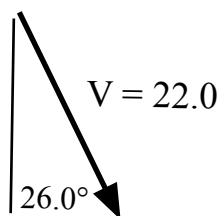
5.



$$V_h = \underline{\hspace{2cm}}$$

$$V_v = \underline{\hspace{2cm}}$$

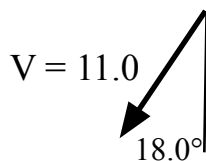
6.



$$V_h = \underline{\hspace{2cm}}$$

$$V_v = \underline{\hspace{2cm}}$$

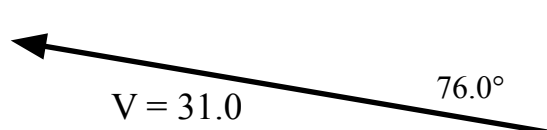
7.



$$V_h = \underline{\hspace{2cm}}$$

$$V_v = \underline{\hspace{2cm}}$$

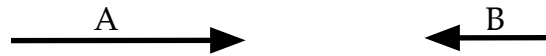
8.



$$V_h = \underline{\hspace{2cm}}$$

$$V_v = \underline{\hspace{2cm}}$$

9. A car is driven 80 km west and then 30 km 45° south of west. What is the displacement of the car from the point of origin? (magnitude and displacement)
10. A delivery truck travels 18 blocks north, 10 blocks east, and then 20 blocks south. What is the truck's final displacement from its starting point? Assume the blocks are all equal length.
11. Given the following two vectors, where Vector A is 6.3 meters and Vector B is 3.5 meters:

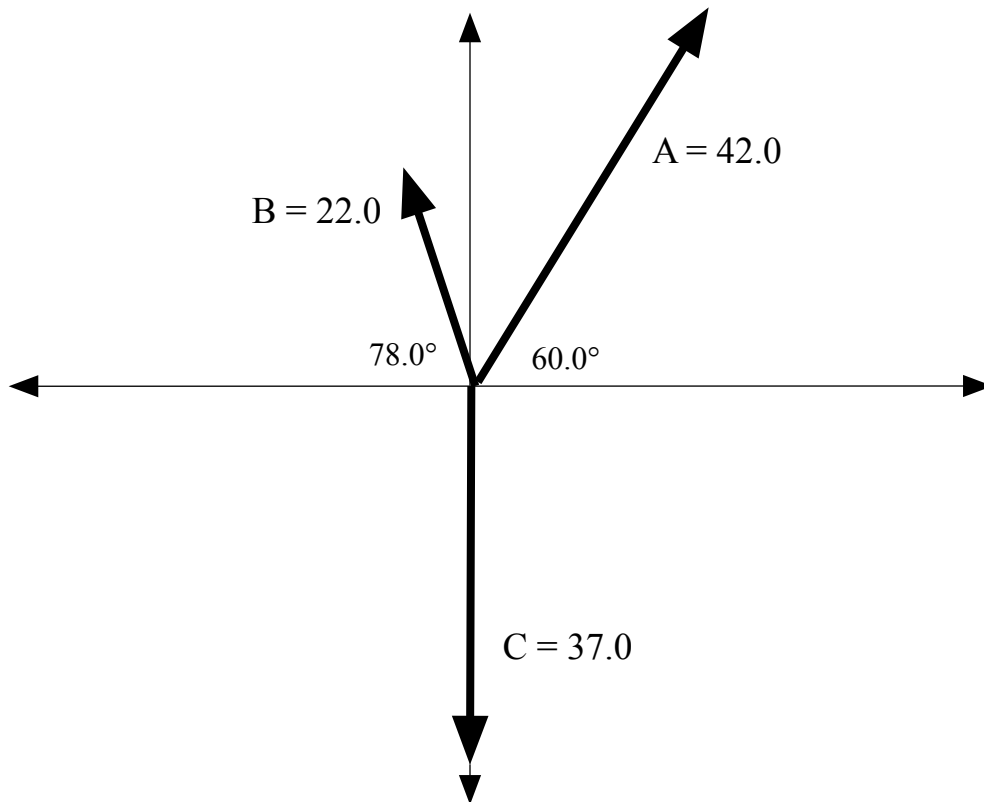


Determine the magnitude of the following vector sums:

- a. $A + B$ b. $A - B$ c. $B - A$

12. If vector component V_h is -8.50 units and V_v is 4.80 units, what is the magnitude and direction of Vector V?

13. Given the three vectors shown below:



Calculate the following vector sums:

- a. $A + B + C$ b. $A - C$
- c. $B - A$ d. $B - C$
- e. $A - B + C$ f. $A + B - C$