Your professor walked 5 meters, turned 90°, and walked 12 meters more. If she turns to walk directly back to her starting point, will she walk 5 + 12 = 17 meters? Why or why not?

Each of the vectors below represents a velocity, in meters/second. Determine the numerical values of the x- and y-components of each vector, and include units in your answer. ***Worth 10 Skill points for each.***







Draw and label the following displacement vectors, given their displacement components below. Then determine the magnitude and direction of each vector. ***Worth 10 Skill points for each.***





Find the vector sum , and give your answer in terms of the magnitude and the direction. ***Worth 20 Skill points.***

Now find the vector sum , and leave your answer in x- and y-components. ***Worth 20 Skill points.***

What vector is needed, if . ***Worth 30 Skill points.***

Draw and label these velocity vectors on the axes. Then determine the magnitude and direction of each vector. ***Worth 10 Skill points for each.***

 

Find the vector difference , and give your answer in terms of the magnitude and the direction. ***Worth 20 Skill points.***

Now find the vector difference , and leave your answer in x- and y-components. ***Worth 20 Skill points.***