One car travels due east at 40 km/h, and a second car travels north at 11.11 m/s. Are their velocities equal?

1. Yes
2. No
A flying gerbil is initially traveling 20 m/s in a direction 20° from the +y axis towards the -x axis. Some time later the gerbil is traveling 10 m/s in a direction 10° from the +x axis towards the +y axis. What additional information would be needed to find the average acceleration of the gerbil during this motion?

1. The total distance traveled
2. The initial and final position vectors
3. The time interval
4. Whether it is a European or African flying gerbil
5. None is needed, you can calculate it as it is
A flying gerbil is initially traveling 20 m/s in a direction 20° from the +y axis towards the -x axis. One minute later the gerbil is traveling 10 m/s in a direction 10° from the +x axis towards the +y axis. What is the average acceleration of the gerbil during this motion?

1. < -0.284, -0.278 > m/s²
2. < 16.7, -17.1 > m/s²
3. < -12.1, -5.22 > m/s²
4. < -17.1, 16.7 > m/s²
5. < 0.278, -0.284 > m/s²
A bus makes a trip according to the position-time graph shown in the illustration.

What is the average acceleration (in km/h^2) of the bus for the entire 3.5-h period shown in the graph?

1. $< -0.284, -0.278 >$ m/s^2
2. $< 16.7, -17.1 >$ m/s^2
3. $< -12.1, -5.22 >$ m/s^2
4. $< -17.1, 16.7 >$ m/s^2
5. $< 0.278, -0.284 >$ m/s^2