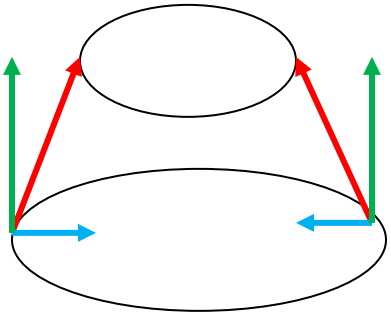
# CENTRIPETAL FORCE

Unit 14 Dr. John P. Cise, Professor of Physics, Austin Com. College,
1212 Rio Grande St., Austin, Tx. 78701 jpcise@austincc.edu & New York Times Feb. 24,2008 by Jack Anderson

# The Week Ahead: Feb. 24-Mar. 1

Andrea Mohin/The New York Times

Nathaniel Keuter, center, and the rest of the Paul Taylor Dance troupe will dance the stuff of dreams at City Center



## Dance

Jack Anderson

The PAUL TAYLOR DANCE COMPANY will be dreaming in public during its City Center season, which opens on Thursday. Mr. Taylor's new works are both about dreams. In "DE SUEÑOS" ("OF DREAMS"), Mexican dreams are set to different selections from "Nuevo," a Kronos Quartet recording that combines music by contemporary Mexican composers with sounds of boisterous city streets. It was first seen last July at the American Dance Festival in North Carolina and was performed two months later at Battery Park — the only time it was danced in New York — but without the full scenery. Then on March 4 the New York premiere of "DE SUEÑOS QUE SE REPITEN" ("OF RECURRING DREAMS") will be added to the program. These fantasies, although stylistically related, don't need to be seen together. They're both inspired by Mexican celebrations like the Day of the Dead and the traditional Mexican Hat Dance and Deer Dance.

QUESTION: Find the linear(tangential speed)speed these dancers are dancing at? Given: They are dancing in a circle of 5 feet radius and at a 60 degree angle to the horizontal. Hint: The force(F) the floor is exerting on the dancers is shown in red. The two components of that force F are: F cos(angle) in the horizontal direction shown in blue and F sin(angle) in the vertical direction shown in green. The dancers are in equilibrium vertically, but in the horizontal direction they are not in equilibrium since the dancers have a centripetal acceleration toward the center of the circle. Set up two equations and you should find one function has the sin and the second the cos function. The sin/cos = tangent(angle).
Answers: V = ….about 9.62 ft/sec.