Motion in Space: Velocity and Acceleration

True or False?

Recall that in general the acceleration $\vec{a} = v'\vec{T} + \kappa v^2 \vec{N}$. Suppose $\vec{T}$ and $\vec{N}$ are nonzero and $\vec{a} = 2\vec{T} + 3\vec{N}$ throughout a particular motion. Which of the following could be a true statement about the motion?

  A. The speed could be constant.

  B. The motion could be along a straight line.

  C. The motion could be around a circle in space.

  D. None of the above.