

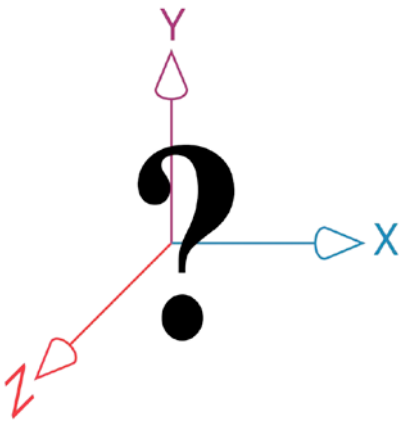
# Test Yourself



By **Richard L. Elgin, PhD, LS, PE**

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## Where's the *Archilochus colubris*?



On an X, Y, Z orthogonal coordinate system, suppose an *Archilochus colubris* leaves coordinates 20, 5, 0 (X:Y:Z) moving in the plus Z direction at a speed of 4.628 feet per minute for 2.111 minutes. Then the *Archilochus colubris* changes course, moving in the plus X direction at a speed of 3.919 feet per minute for 3.767 minutes. Then the *Archilochus colubris* changes course, moving in the minus Y direction at a speed of 3.077 feet per minute for 1.985 minutes. When the *Archilochus colubris* stops, what is the distance back to (0, 0, 0)? Consider the coordinate values given and rate of speed and travel times as exact and consider the change of speeds and directions as instantaneous.

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