

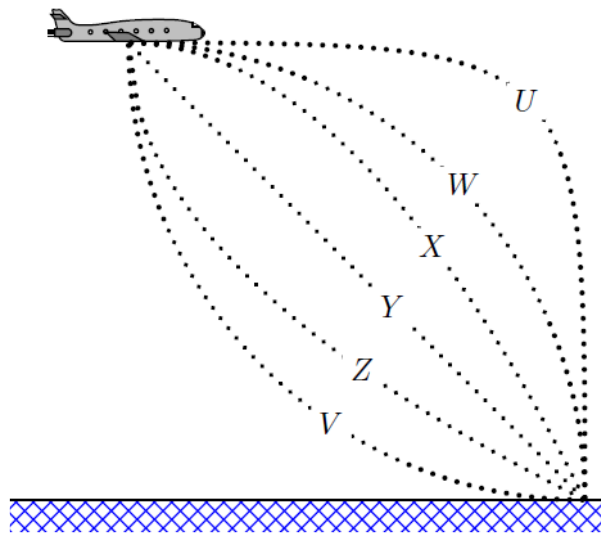
Answer on Question #49363-Physics-Other

A bowling ball accidentally falls out of the cargo bay of an airliner as it flies along in a horizontal direction.

Z Y X W U V

As observed by a person standing on the ground and viewing the plane as in the figure, which path would the bowling ball most closely follow after leaving the airplane?

Answer



X is correct.

The horizontal direction of ball motion is due to initial velocity it got from airplane, and the vertical is due to the gravity. The resultant motion is on a parabolic curve (dotted curve X). It is example of projectile motion.

Note: Dotted curves W and V are arcs of circles. Dotted line Y is a straight line. Dotted curve U is a Bezier curve. Dotted curve Z is a parabolic curve with axes inverted.