

Challenge Problem 13

An instrument-carrying projectile accidentally explodes at the top of its trajectory. The horizontal distance between the launch point and the point of explosion is L . The projectile breaks into two pieces which fly apart horizontally. One piece has three times the mass of the other. To the surprise of the scientist in charge, the small piece returns to earth precisely at the launching station. How far away does the larger piece land? Neglect air resistance and effects due to the earth's curvature.