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Given a curve in the Euclidean plane, any point x in the plane is said to be m -trilinable if and only if there are three points on the given curve, say x_1 , x_2 and x_3 , such that $d(x,x_1) = d(x,x_2) = d(x,x_3) = m$, where $d(a,b)$ is the distance between points a and b . If there exists a number m such that x is trilinable then we say that x is a trilinable point. We examine the sets of points in the plane that comprise the trilinable points of polygons, of the conic sections, and of curves in general. Furthermore, we discuss the relationship that trilinability has with curvature. (Received September 23, 2009)