Athletes have their ups and downs. We form expectations of their level of performance based on their best years, and may consider they have not lived up to their potential in their other years. We propose a way to quantify an athlete’s potential, and the extent to which the athlete has fallen short of this potential, based on the familiar concept of the convex hull of a finite point set. We present our method in the context of yearly home run production in American major league baseball. (Received July 17, 2016)