

1046-N1-1582 **Howard Penn*** (hlp@usna.edu), Mathematics Department, 502 Holloway Rd, U.S. Naval Academy, Annapolis, MD 21402. *Jump Shot Mathematics*. Preliminary report.

Lisa Leslie takes a 15 foot jump shot, releasing the ball from a height of 10 feet and an angle of elevation of 60 degrees. What is the initial velocity in order for the ball to go through the basket? If we assume ballistic motion, this is an easy problem to solve. Later in the game she shoots from the same height and distance but at a 30 degree angle. It is well know that the initial velocity is the same. But the real question is: are these shots good? After all, a basketball is not a point mass, rather it is a sphere of diameter 9 inches. The basket has a diameter of 18 inches. How close does each of these shots come to the front rim? (Received September 16, 2008)