Question #84

The water container shown in the photograph below has five (5) holes spaced at equal intervals of *d*, allowing water to spray out in coherent jets as seen. The distance from the bottom of the container to the lowest jet and the distance from the top jet to the surface of the water are also *d*.

For the purpose of this question the *range* of any water jet is the distance that the jet sprays from the front of the container by the time it reaches the bottom of the container (a vertical distance of *d* below the lowest hole).

So here is the question: which of the five water jets has the greatest range? In fact, can you rank the five jets in order of their range,beginning with the greatest range? Let's number the jets from one (1) to five (5) with the lowest jet being number 1 and the highest jet number 5.

The top jet may have the greatest range because it has further to fall and therefore takes more time, so the order of jet ranges might be 5-4-3-2-1. On the other hand, perhaps the lowest jet has the greatest range because it sprays out with the greatest speed, so the order of jet ranges might be 1-2-3-4-5.

Question #84: Rank the five jets in order of their ranges, from the greatest to the least.

Click here for Answer #84 after October 1, 2001.

Question of the Week

Outreach Index Page

Lecture-Demonstration Home Page

For questions and comments regarding the *Question of the Week* contact

Dr. Richard E. Berg by e-mail or using phone number or regular mail address given on the Lecture-Demonstration Home Page.