

ZMATH 1998a.00562

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Mathematics and the city water tower.

Consortium, No. 62, 1-6 (1997).

“A new park has a series of waterfalls, fountains, and pools (reservoirs). The height of one of the reservoirs is two meters. Several holes of relatively small diameter will be drilled in the side to make streams of water that fall into the next pool. At what height on the reservoir should a hole be placed to get the maximum distance for the waterjet?” Use Torricelli’s Principle that the initial horizontal velocity is $v = \sqrt{2gh}$ and knowledge from the physics of acceleration due to gravity to express the x and y coordinates for points on the water jet parametrically as a function of time t . Graph the water jet for several heights to estimate the answer. (orig.)

Classification: M54