# Velocity vs. Height

The square root is related to one of the most revolutionary experiments in the history of science. Working some 500 years ago, Galileo Galilei discovered that contrary to ancient authority, the speed of falling objects, which he had dropped from an Italian cathedral tower, was proportional to the square root of the height from which they were dropped. Because of such experiments, Galileo is considered to be the founder of modern physics. [[1]](#footnote-1) [[2]](#footnote-2)



photograph by Nancy Fleming

The expression can be used to determine the velocity of a free-falling object in feet per second, where ft/sec2, and the distance the object has fallen *h* ft. If a ball has fallen 60 ft, is the ball’s velocity double that of a ball that has fallen 30 ft? Explain your reasoning.

1. Jeanne Bendick, Along came Galileo (Beautiful Feat Books, Sandwich, MA, 1999 [↑](#footnote-ref-1)
2. Geoffrey Akst, Sadie Bragg. Introductory Algebra through Applications. Pearson/Addison Wesley. 2009.Pg. 590, 611. [↑](#footnote-ref-2)