Math 2320 -Beach Math

Name:_____

TAKE HOME. There are many legends surrounding the first president of the United States, some true some maybe not so true. One such legend is that George Washington threw a rock from the ground to the top of the Natural Bridge in Virginia (look up pictures on google maps very pretty), a vertical distance of 215 feet. Ignoring air resistance and noting that a modern professional pitcher can throw a ball at 90 miles an hour, argue the possible validity of this legend (of course using calculus).

To start note that $s(t) = -16t^2 + v_0 t$ is the equation of the height (in feet) of an object thrown directly upward on earth, where v_0 is the initial velocity (in feet per second). Your job is to determine the initial velocity so that the maximum height is at least 215 feet. Then convert your initial velocity into miles per hour and compare to the 90 miles per hour.