# Characteristics of Exponents

There is plenty of math in Lee Child’s Reacher novels. Find the reference to exponents and present a mathematical explanation to confirm or refute Reacher’s argument in each of these passages.

“OK, now we’ll go break into his house.” Which we did by kicking down the door. Which was easy enough. A question of force, obviously, which is the product of mass times velocity squared, and that squared part puts a premium on speed, not weight. Bulking up by twenty pounds at the gym is good, because throws and extra twenty pounds in the mix, but moving your foot an extra twenty percent faster is better. It does you four hundred percent of a favor. Because it gets squared. Which means multiplied by itself. Money for nothing. Like in baseball. You can swing a heavy bat slow or a light bat fast, and the slow heavy bat gets you a high fly to the warning track, and the light fast bat puts the ball in the bleachers.

Three hours in a car? I said, “At night, with empty roads? Anything up to a two-hundred-mile radius. A hundred and twenty-five thousand square miles. Approximately. Pi times the radius squared.