# Practice Problems – Solving Equations with Radicals

## Vehicle Speed

Police use the formula  to estimate the speed at which a car traveled at the time of an accident, where is the length in feet of the skid marks made by the car in the accident. A police car traveling 30 miles per hour simulates the conditions of the accident. In the model, *p* is the length of the skid marks made by the police test car. A car traveling at 90 miles per hour was in an accident that was simulated by a test car. If the length of the skid marks left by the police test car was 100 feet, what was the length of the skid marks left at the time of the accident? [[1]](#footnote-1)

note the development of the formula as our ability to deal with more complex radicals increased.

Highway Design

A highway curve banked at 8° will accommodate traffic traveling at speed *(mph*) if the radius of the curve is feet, according to the equation . If highway engineers expect traffic to travel at 65 mph, what radius should they specify? [[2]](#footnote-2)

1. Robert Blitzer. Introductory Algebra for College Students. Prentice – Hall, Inc. 1998. pg. 679. [↑](#footnote-ref-1)
2. Alan S. Tussy, R. David Gustafson. Elementary Algebra. Thomson Brooks/Cole. 2008. Pg 719. [↑](#footnote-ref-2)