



NAME _____

Module 18 Solving Radical Equations
Lesson 3 Solving Problems Using Radical Equations

Lesson Objective

- Solve application problems in which a radical equation must be solved.

In the length of a skid mark formula, $s = 5.5\sqrt{0.75m}$, s represents speed in mph and m represents length of the skid mark in feet.

- 1 Find the length of a skid mark when a car goes into a skid at 60 mph.
approximately 159 feet

In the distance to the horizon formula, $d = 1.17\sqrt{h}$, d represents distance to the horizon in miles, and h represents height from which the horizon is being veiwed in feet.

- 2 A mountain climber sitting on a mountain's summit estimates that the distance to the horizon is 45 miles. How high is the mountain's summit?
approximately 1,479 feet

In the speed of sound near Earth's surface formula, $v = 20\sqrt{t + 273}$, v represents the speed of sound in m/s, and t represents temperature in °C.

- 3 What is the temperature if sound travels at 400 meters per second?

127°C

- 4 A 13-foot ladder leans against a building so that the bottom of the ladder rests on the ground five feet from the building. How high up the side of the building does the ladder reach?

12 feet

