**Radicals**

**Application Practice**

Answer the following questions. Use Equation Editor to write mathematical expressions and equations. First, save this file to your hard drive by selecting **Save As** from the Filemenu. Click the white space below each question to maintain proper formatting.

1. For each planet in our solar system, its year is the entire time it takes the planet to revolve once around the sun.

The formula



models the number of Earth days in a planet’s year, E, where x is the average distance of the planet from the sun, in millions of kilometers. Use the formula to solve the following problems:

1. We, of course, have 365 Earth days in our year. What is the average distance of the Earth from the sun? Explain how you would solve this problem. Use a calculator and round to the nearest million kilometers.
2. There are approximately 91 Earth days in the year of the planet Mercury. What is the average distance of Mercury from the sun? Explain how you would solve this problem. Use a calculator and round to the nearest million kilometers.

2. The distance to the horizon that you can see, D, in miles from the top of a mountain is given by the formula.

a) Solve this equation for *h*.

b) You’ve hiked to the top of a mountain with views extending 47 miles to the horizon. How high is the mountain?