p. 586 #56

When firefighters are working to put out a fire, the rate at which they spray water on the fire depends on the nozzle pressure. The formula

$$f = 120\sqrt{p}$$

models the water's flow rate, *f*, in gallons per minute, in terms of the nozzle pressure, *p*, in pounds per square inch. Use this formula to solve #56:

#56: What nozzle pressure is needed to achieve a water flow rate of 720 gallons per minute?

Ans. 36 pounds per square inch

p. 597 #64

Paleontologists use the formula

$$W = 4\sqrt{2x}$$

to estimate the walking speed of a dinosaur, *W*, in feet per second, where *x* is the length, in feet, of the dinosaur's leg. What was the leg length of a dinosaur whose walking speed was 16 feet per second?

Ans. 8 feet

p. 596 #11

The formula

$$d = \sqrt{\frac{3h}{2}}$$

Models the distance, *d*, in miles, that you can see to the horizon at a height of *h* feet. The height of the Sears Tower in Chicago is 1450 feet. How far to the horizon can visitors see from the top of the building? Use a calculator and round to the nearest mile.

Ans. 47 miles