1. A solid object has a mass of 15,000 kilograms and a volume of 10.0 m3. Find its density.
2. Find the specific gravity of the object in problem 1.
3. A large bucket of water has a volume of 5 gallons or 1.89 x 10-2 m. If the density of water is 1,000 kg/m3, how much does the bucket of water weigh in Newtons?
4. A heavy box is resting on the floor. The box bottom has dimensions of 0.60 m by 1.0 m. The height of the box is 0.50 m. The box and its contents have a total mass of 150 kg. Find the pressure exerted on the floor by the box.
5. A typical swimming pool is 5.0 feet or 1.52 meters deep. It is filled with water that has a density of 1,000 kilograms per cubic meter. What is the pressure the water exerts on the bottom of the pool?