**Problem1.**

Given that a random variable, *X*, has a normal distribution with mean 6.4 and standard deviation

2.7, find

(a) P(4.0 *x* 5.0).

(b) P(*x* > 2.0).

(c) P(*x* 7.2).

(d) P((*x* 3.0) or (*x* > 9.0)).

**Problem2.** Dennis Hogan is the supervisor for the Hydroelectric Dam. Mr. Hogan knows that the dam’s turbines generate electricity at the peak rate only when at least 1,000,000 gallons of Water pass through the dam each day. He also knows, from experience that the daily flow is normally distributed, with the mean equal to the previous day’s flow and a standard deviation of 200,000 gallons. Yesterday, 850,000 gallons flowed through the dam. What is the probability that the turbines will generate at peak rate today?