AP Statistics

The Prom Problem

*In a group of students who are going to prom, the males have an average height of 69.2 inches with a standard deviation of 3.1 inches. The females in this group have an average height of 64.9 inches with a standard deviation of 2.8 inches. Assume both female and male heights are approximately normally distributed.*

*a) A couple decides to go to prom as a blind date, they have never seen each other. What is the chance the female is taller than the male?*

*b) A group of 6 males and 7 females are randomly selected for pictures. What is the approximate probability that the sample mean of the female heights is greater than the sample mean of the male heights?*

*Hint: These are not significance test problems.*