# Homework for YouTube video 4-23-20
From AP Classroom

A large school district held a district-wide track meet for all high school students. For the 2-mile run, the population of female students participating had a mean running time of 8.8 minutes with standard deviation of 3.3 minutes, and the population of male students participating had a mean running time 7.3 minutes with standard deviation of 2.9 minutes. Suppose 8 female students and 8 male students who participated in the 2-mile run are selected at random from each population. Let $\bar{x}_F$ represent the sample mean running time for the female students, and let $\bar{x}_M$ represent the sample mean running time for the male students.

What are the mean and standard deviation of the sampling distribution of the difference in sample means $\bar{x}_F - \bar{x}_M$ ?

A   The mean is 0.4, and the standard deviation is $\sqrt{\frac{8.8}{8} + \frac{7.3}{8}}$ .

B   The mean is 0.4, and the standard deviation is $\sqrt{\frac{8.8^2}{8} + \frac{7.3^2}{8}}$ .

C   The mean is 1.5, and the standard deviation is $\sqrt{\frac{3.3^2}{8} - \frac{2.9^2}{8}}$ .

D   The mean is 1.5, and the standard deviation is $\sqrt{\frac{3.3}{8} + \frac{2.9}{8}}$ .

E   The mean is 1.5, and the standard deviation is $\sqrt{\frac{3.3^2}{8} + \frac{2.9^2}{8}}$ .