A random sample of 40 observations of a random variable X and a random sample of 50 observations of a random variable Y are taken. The resulting values for the sample means, $\bar{x}$ and $\bar{y}$, and the unbiased estimates, s_x^2 and s_y^2, for the population variances are as follows.

$$\bar{x} = 24.4 \qquad \bar{y} = 17.2 \qquad s_x^2 = 10.2 \qquad s_y^2 = 11.1$$

Find a 90% confidence interval for the difference between the population means of X and Y. [5]