Homework for YouTube video 4-6-20
From AP Classroom

Researchers are studying the distribution of subscribers to a certain streaming service in different populations. From a random sample of 200 people in City C, 34 were found to subscribe to the streaming service. From a random sample of 200 people in City K, 54 were found to subscribe to the streaming service. Assuming all conditions for inference are met, which of the following is a 90 percent confidence interval for the difference in population proportions (City C minus City K) who subscribe to the streaming service?

A $\left(0.17 - 0.27\right) \pm 1.65\sqrt{\frac{0.17}{200} + \frac{0.27}{200}}$

B $\left(0.17 - 0.27\right) \pm 1.96\sqrt{\frac{(0.17)(0.83)+(0.27)(0.73)}{400}}$

C $\left(0.17 - 0.27\right) \pm 1.65\sqrt{\frac{(0.17)(0.83)+(0.27)(0.73)}{400}}$

D $(0.17 - 0.27) \pm 1.96\sqrt{\frac{(0.17)(0.83)+(0.27)(0.73)}{200}}$

E $(0.17 - 0.27) \pm 1.65\sqrt{\frac{(0.17)(0.83)+(0.27)(0.73)}{200}}$