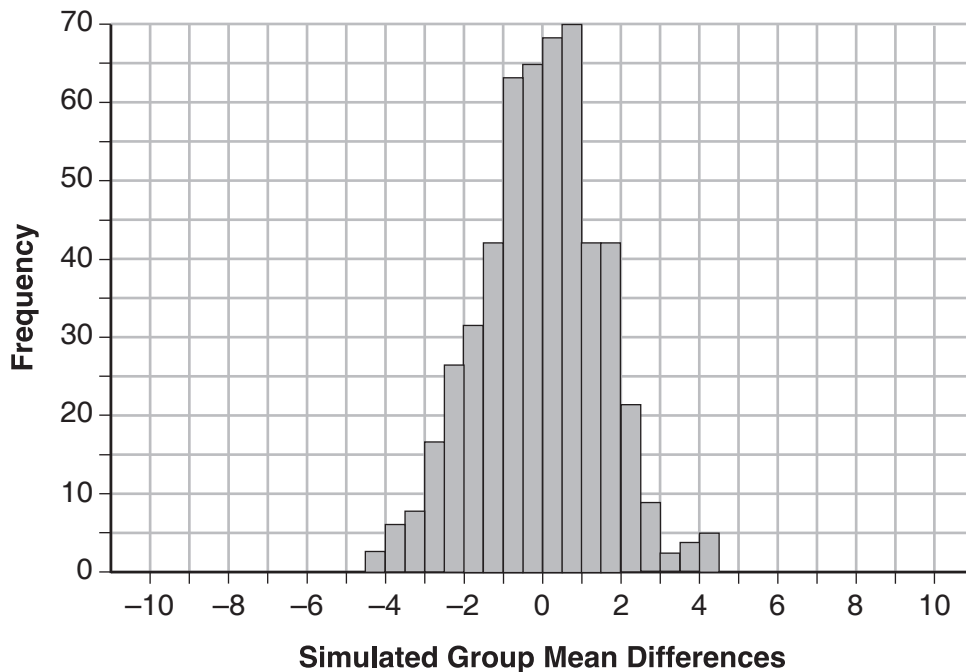**14** Seventy-two students are randomly divided into two equally-sized study groups. Each member of the first group (group 1) is to meet with a tutor after school twice each week for one hour. The second group (group 2), is given an online subscription to a tutorial account that they can access for a maximum of two hours each week. Students in both groups are given the same tests during the year.

A summary of the two groups' final grades is shown below:

	Group 1	Group 2
$\overline{x}$	80.16	83.8
S_x	6.9	5.2

Calculate the mean difference in the final grades (group 1 – group 2) and explain its meaning in the context of the problem.

A simulation was conducted in which the students' final grades were rerandomized 500 times. The results are shown below.

Use the simulation to determine if there is a significant difference in the final grades. Explain your answer.