Name: _____ Date: _____ **Unit 2 Class Work**

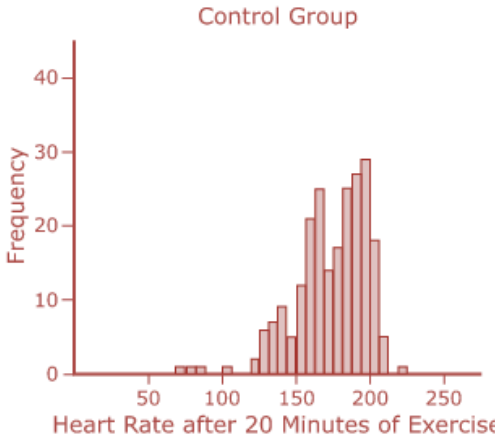
Comparing Two Treatments (Class Work)

Objective: You will be able to compare two treatments and make inferences regarding the results.

Part A

The histograms show the distribution of heart rates randomly selected adult males between the ages of 40 and 45 after 20 minutes of continuous exercise. The adult males were randomly assigned to use either a new elliptical machine (Experimental Group) or a traditional elliptical machine (Control Group) at the same gym.

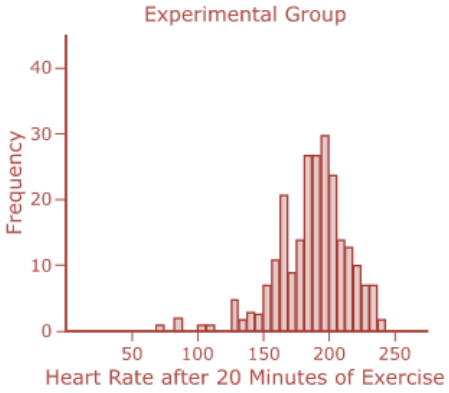
What conclusion about the difference between the distributions of the heart rates for the two groups can be drawn? Justify your answer. **Hint:** Consider the heart rate for which most of the males in each group had. How do these frequencies compare? Then also consider the lowest and highest heart rate for each group of males.
How do these heart rate ranges compare? Sketch an approximate normal distribution curve around each histogram to observe which is clustered more around the mean.



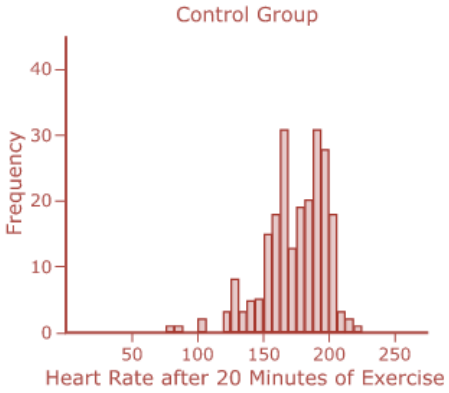
If Joe is 43 years old and wants to exercise for 20 minutes and achieve a heart rate of around 200 beats per minute, what recommendation would you make in terms of which machine to use? Justify your answer.
Hint: Sketch an approximate normal distribution curve around each histogram to see which mean is closer to 200 beats per minute.

Part B

After the participants worked out three times per week for four weeks solely on their assigned machines, the participants' heart rates were collected again after 20 minutes of continuous exercise. The data are shown in the histograms.



What conclusion about the difference between the distributions of the heart rates for the two groups can be drawn? Justify your answer.



If the target heart rate range for adult males aged between 40 and 45 after 20 minutes of exercise is around 175 beats per minute, what recommendation would you make in terms of which machine to use? Justify your answer.

Part C

Based upon these data, can you make any conclusions about exercise machines in general? If so, please list at least three inferences the data brings about. If you cannot make any conclusions about general exercise based on these results, please list at least three reasons as to why not.

Name: _____ Date: _____ **Unit 2 Class Work**

I – C - Q

Write down any IMPORTANT IDEA or reminder related to making inferences/decisions based on histograms.

OR

CREATE a question that could apply to the models you worked with today.

OR

Write down any QUESTION you still have regarding today's concepts.