Name: _____ Date: _____

Plotting Heart Rate Recovery

Comparing the heart rates of active and inactive students before, during, and after exercise

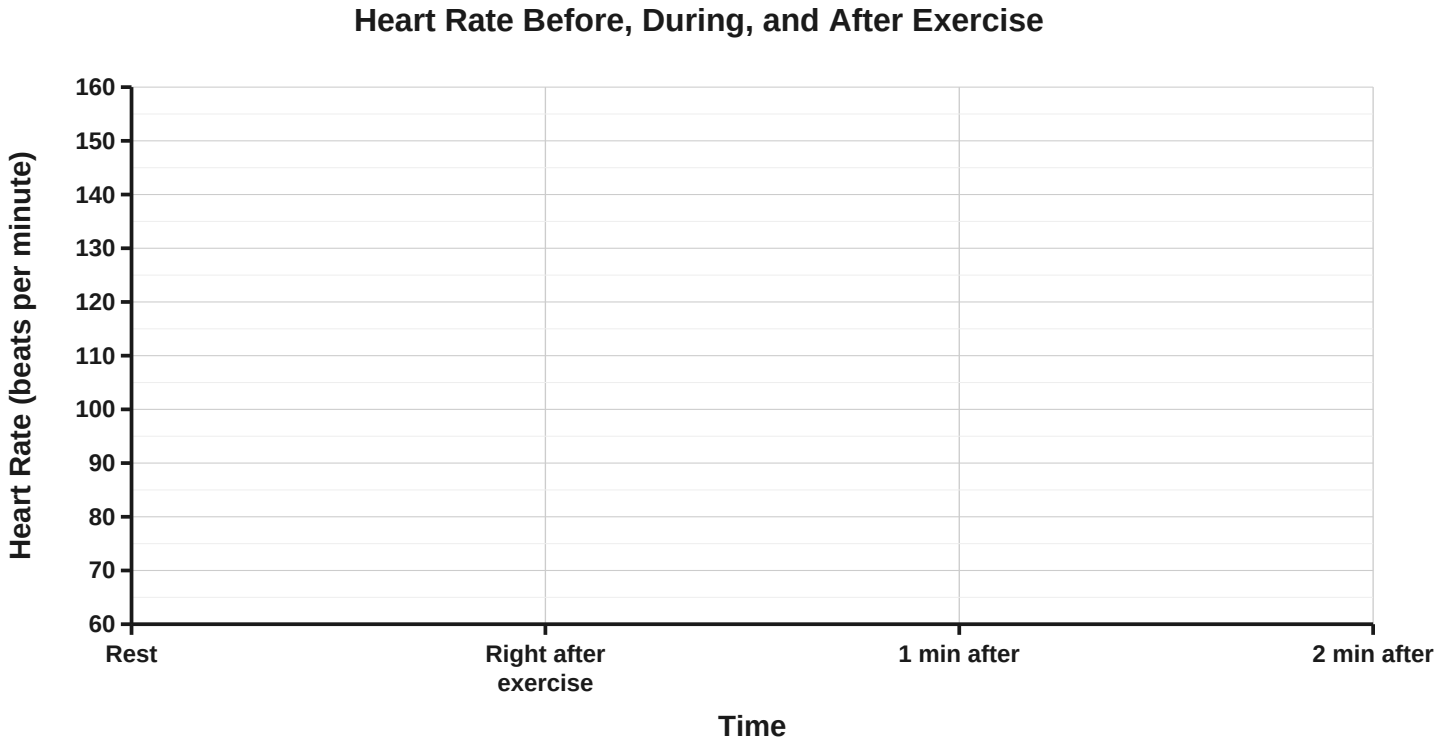
Two groups of students did the same exercise. The **active group** exercises regularly. The **inactive group** does not exercise much. Their heart rates were measured at four time points. Your job is to plot both groups on the graph, then compare how their heart rates changed.

Step 1: Plot both groups, then connect each set of points with a line.

Plot two lines on your graph:

- Active group = SOLID GREEN line with circles
- Inactive group = DASHED RED line with squares

Time	Active group (green line)	Inactive group (red line)
Rest	68 bpm	76 bpm
Right after exercise	142 bpm	147 bpm
1 min after	96 bpm	115 bpm
2 min after	83 bpm	102 bpm



Step 2: Label each phase of the graph.

After Rest, heart rate goes through two phases. Use the descriptions below to find each phase on your graph. Then write the phase name above that part of the graph.

Exercise phase: The heart is working hard to deliver oxygen to the muscles. Look for the SHARP RISE in both lines between Rest and Right after exercise.

Recovery phase: The heart is slowing back down after exercise has stopped. Look for the section where both lines DROP, between Right after exercise and 2 min after.

Step 3: Reflection questions

1. Are the two lines closest together at rest, during the exercise phase, or during the recovery phase? About how far apart are they at that point?

2. Are the two lines farthest apart at rest, during the exercise phase, or during the recovery phase? About how far apart are they at that point?

3. How much did the active group's heart rate drop in the first minute of recovery? How much did the inactive group's drop? Show your math.

4. Based on your graph, which group recovered faster after exercise? Use specific numbers from the graph as evidence to support your answer.