



## SE TASK: Heartbeats

### Part 1:

In the sixth and seventh grade, you studied proportional relationships. Do you think that the number of heartbeats you can count is proportional to the number of seconds that you check your pulse? Explain why or why not.

### Part 2:

- Work with your partner to take measurements and test your conjecture. One of you will be the timer and the other will count their own number of heartbeats per period of time.
- First, count and record the number of beats in 10 seconds, and repeat the experiment counting the number of beats in 20 seconds and 40 seconds.

Heartbeat Data for \_\_\_\_\_

Number of Seconds	Number of Heartbeats
10	
20	
40	

- Predict how many times your heart would beat in 25 seconds, in 60 seconds, and in 120 seconds. Explain how you made your predictions.

**Part 3:**

After gathering this data, change jobs. The person who kept the time now checks his/her pulse rate for 10 seconds, 20 seconds, and 40 seconds.

*Heartbeat Data for* \_\_\_\_\_

Number of Seconds	Number of Heartbeats
10	
20	
40	

- Predict how many times your heart would beat in 25 seconds, in 60 seconds, and in 120 seconds. Explain how you made your predictions.

**Part 4:**

- Develop a function rule (equation) to represent your pulse rate. How does your function rule compare with your partner's function rule? Explain to your partner why your function rule is valid.

***Part 5:***

Create a scatter plot to represent your pulse rate. How does your graph compare with your partner's graph? Explain to your partner why your graph is valid.

