

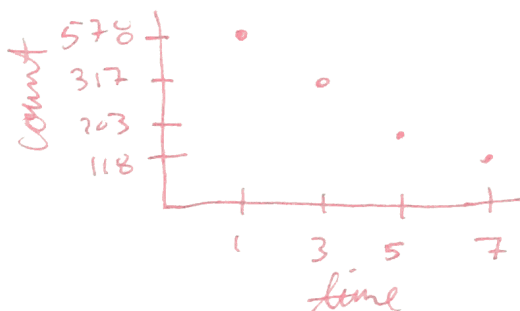
name: Solution

1 (10 points). Barium-137m is a radioactive form of the element barium that decays very rapidly. It is easy and safe to use for lab experiments in schools and colleges. In a typical experiment, the radioactivity of a sample of barium-137m is measured for one minute. It is then measured for three additional minutes. So data are recorded at one, three, five, and seven minutes after the start of the first counting period. The measurement units are counts. Here are the data for one of these experiments:

Time	1	3	5	7
Count	578	317	203	118

- Make a scatterplot of the data. Give reasons for the choice of which variables to use on the x and y axes.
- Describe the overall pattern in the scatterplot and any striking deviations from the pattern.
- Describe the form, direction, and strength of the relationship.

a) Because time is the explanatory variable, it goes on the x -axis.



b) The pattern is that count decreases as time increases. No striking deviations.

c) The form is linear. The strength is quite strong. The direction of the relationship is negative.