

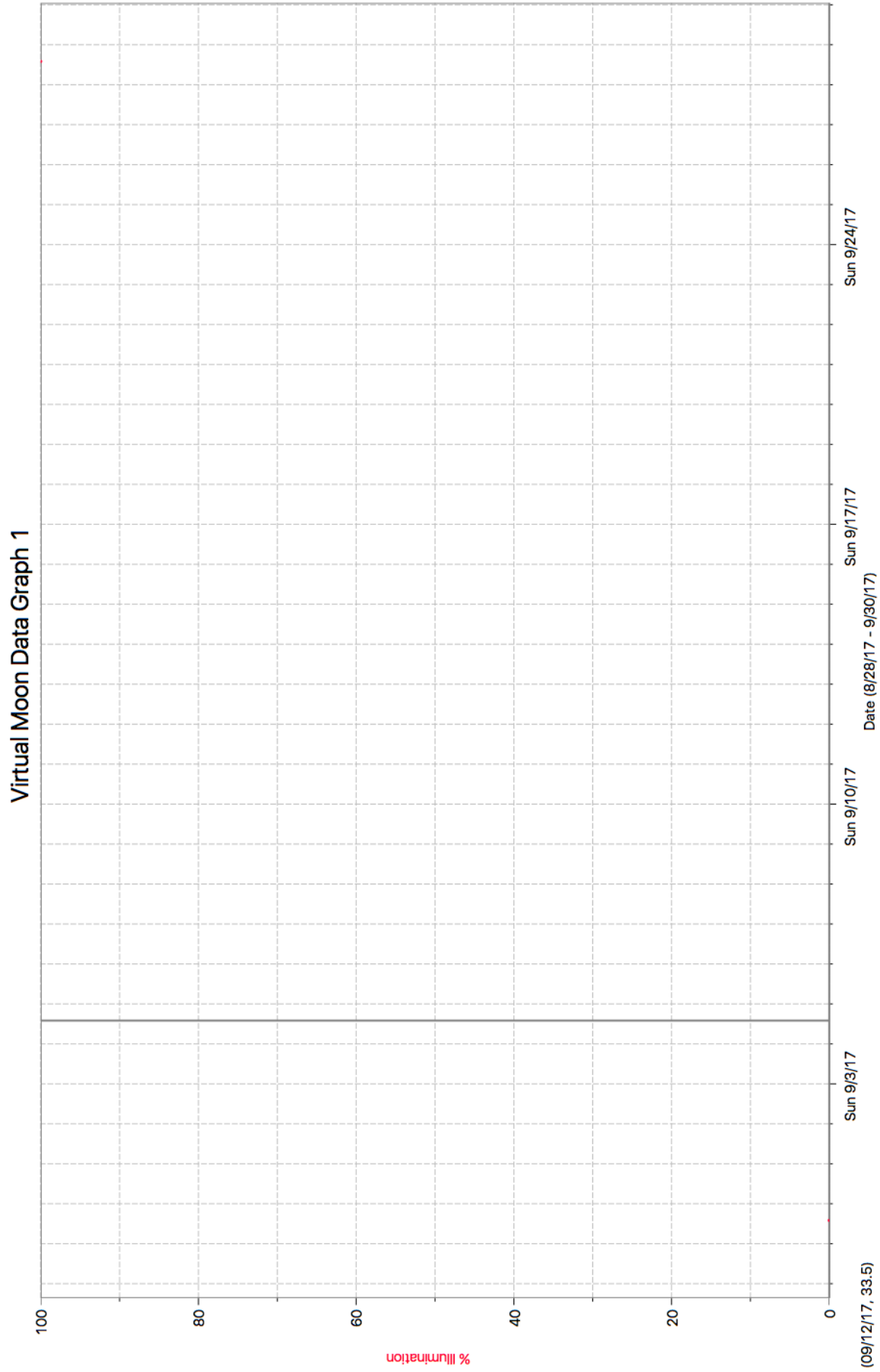
Virtual Moon Journal Part 3—Graphing Data

In this activity you will graph some of your Virtual Moon Journal data to investigate the orbital cycle of the Moon. You will explore the relationships that exist between the day of your observation and other parameters, such as the percentage of the Moon's disk that is illuminated, the angular separation of the Sun and Moon, and the phase the Moon is in.

1. Make two graphs.
 - a. On Graph 1, plot the day of the observation on the x-axis, and percentage of the Moon's disk that is illuminated on the y-axis.
 - b. On Graph 2, plot the angular separation of the Sun and Moon on the x-axis, and percentage of the Moon's disk that is illuminated on the y-axis.
2. Connect the data points on each graph with a **single smooth curve**.
3. Mark the points on *each* graph that correspond to new, 1st quarter, full, and 3rd (last) quarter moon.

After you've checked your graphs with your teacher, please answer the following questions:

4. Are the shapes of the two graphs different or the same? Explain.
5. What is the angular separation of the Moon and Sun that results in a first quarter moon?
6. What is the angular separation of the Moon and Sun that results in a full moon?
7. What is the angular separation of the Moon and Sun that results in a third (last) quarter moon?
8. What is the angular separation of the Moon and Sun that results in a new moon?



(09/12/17, 33.5)

Virtual Moon Data Graph 2

