Biorhythm Project

According to a theory called biorhythm, everyone has three inner rhythms that start at birth: a 23 day physical cycle, a 28 day emotional cycle, and a 33 day intellectual cycle. Each cycle consists of a high period, a low period, and a critical transition day when a person moves from one period to the other. These three cycles can be graphed so that a person can determine in advance when "good" and "bad" days will occur. The graph of each biorhythm cycle is a sine wave.

1. Determine the function that models your physical cycle.
    a. For the start date, divide your age in days by 23 for the number of days in the cycle. You are only interested in the remainder. The value of the remainder tells you how many days ago your cycle started.
    b. Counting forward 23 days from this date will give the end of the cycle.
    c. Finding the halfway point gives the transition date. (add 11½ days to the start date)
    One fourth of the way gives the high point (add 5¼ days to the start date) and three fourths of the way gives the low point (add 16¾ days to the start date).

    Ex. 5846 / 23 = 254 R4 This cycle started 4 days ago on **August 27**. It will end on **September 19**. Halfway would be 11½ days which will occur on **September 8**. One fourth of the way would be 5 ¾ days on **September 2** and three fourths of the way will be 17 ¼ days on **September 14**.

    d. Plot your points on a graph – use your ranking system to determine the high point (Sept 2), transition days (Start, middle and end), and the low point (Sept 14). Use **September 1** as day #1 on your graph.

        - Continue as many cycles as you needed to reach October 20th.

    e. Determine the sine function that fits your data.
    (Your ranking system will determine your amplitude and vertical shift)
        i. Amplitude =
        ii. Period =
        iii. Horizontal Shift =
        iv. Vertical Shift =
        Function:

2. For the emotional cycle follow the same process as in #2 but use 28 days.

3. For the intellectual follow the same process as in #2 but use 33 days.

4. State when your next "good" day and "bad" days will occur.

5. Plot your days as you ranked them on the corresponding graph.

Your final project should include:

- Your age in days on the date you started (I was X days as of August 31, 2013.)
  - include work as to how you figured out your age

- For each cycle include:
  - The day number (after August 31) that your cycle started (September 1 = day #1)
  - A sine or cosine function (equation) that models your cycle
    - and all work supporting your function
  - A NON-COMPUTER GENERATED graph of each cycle (equation)
    - With a scatter-plot of how you ranked each day over each cycle
    - Your x-axis should be the number of days after August 31
    - Each cycle should be on a separate graph

- The calendar where you kept track of "good" and "bad" days
  - Including a description of how you ranked a "good" or "bad" day

- Answers to the following questions:
  - What was "good" and what was "bad" about this month?
  - You predicted your good days would fall on _____ and your bad days on _____. How was your month? Were your predictions correct?
  - Do you feel that biorhythm information is an accurate method of predicting what will happen in your life?

Projects showing extra effort and performance may earn extra-credit.

Continue to track your days until October 20th.

The Final Project is Due October 30th.