Biorhythm 'Cycles'

Name _____

Do the following using your graphing calculator.

Answer: Today's date: _____ / _____ / _____ Your birthday: _____ / _____ / _____
month day year month day year

I. *Preliminary Setup:* 1) [MODE]: Be in **Radians** not Degrees!

2) [Window/Range]: Xmin and Xmax to be determined below; Xscl =1000; Ymin = -2; Ymax = 2; Yscl = 1
Calculate the number of days *you* have been alive which will be the Xmin value for the [Window/Range]:

a) Multiply your age in years by 365, plus extra days due to leap years (1996, '92, '88, '84, '80 if born before Feb. 29), plus # of days since your last birthday plus 1 (the actual birthday).
Note: For people between 15 and 19 years old the answer should be between 5500 and 7500.
Note: The answer you get is the value needed for the Xmin value in the [Window/Range]. This value represents the number of days you have been alive, to this day, therefore it can not be a negative number.

b) Find the Xmax value needed for the [Window/Range]:
i) For the TI81 add to the answer from 2a) 38
ii) For the TI82 and TI83 add to the answer from 2a) 37.6
iii) For the TI85 and TI86 add to the answer from 2a) 42
Note: This value from *i*), *ii*), or *iii*) is the Xmax value and makes a friendly Window/Range when TRACING.
Note: From Xmin to Xmax represents the next month of your life.

c) **Complete**: Your Xmin: _____ Your Xmax: _____
Be sure to use a positive number for both Xmin and Xmax.

3) [Y=]: $Y_1 = \sin(B)x$ where 'B' will be determined below.

ex.1) If period is 9Π then $Y_1 = \sin(B)x$: = 9Π or B = $(2\Pi)/(9\Pi)$or B = $\frac{2}{9}$ therefore $Y_1 = \sin\left(\frac{2}{9}\right)x$ or TI83: $\sin\left(\left(\frac{2}{9}\right)x\right)$

ex.2) If period is 9 then $Y_1 = \sin(B)x$: (2Π)= 9 or *B = $(2\Pi)/(9)$ therefore $Y_1 = \sin((2\Pi)/(9))x$ or TI83: $Y_1 = \sin(((2\Pi)/(9))x)$

a) Enter in Y_1= the *Physical Cycle* which is the sine function having
i) an amplitude of 1, ii) a phase shift of 0, and *iii) a period of 23 (days).
*Note: Use 2Π in the calculations and the answer (see ex.2 above) and be sure to include the x.

b) Enter in Y_2= the *Emotional Cycle* which is the sine function having
i) an amplitude of 1, ii) a phase shift of 0, and *iii) a period of 28 (days) and be sure to include the x.
*Note: Use 2Π in the calculations and the answer (see ex.2 above).

c) Enter in Y_3= the *Intellectual Cycle* which is the sine function having
i) an amplitude of 1, ii) a phase shift of 0, and *iii) a period of 33 (days) and be sure to include the x.
*Note: Use 2Π in the calculations and the answer (see ex.2 above).

II. Use *your* Xmin and Xmax values from the previous page and do the following

1) Graph Y_1 on your calculator

2) Sketch your Y_1 graph below for the *Physical Cycle* labeling the x values rounded to the nearest day
a) where it crosses the x-axis, and
b) at the high and low points on the graph (Hint: Use the TRACE key.)

Best: 1 –
|
|
|
|
Worst: -1 –
Xmin
(Edge of Screen)

days

III. For within the next 35 days answer the following by writing
i) the day of your life (ex. 6200) and
ii) the actual date it will occur (ex. 11/20/96) (Hint: Use a calendar.)

1) Using Y_1 : When will you be at your physical a) peak *i*)_____ *ii*) _____

b) worst *i*)_____ *ii*) _____

2) Graph Y_2 : When will you be at your emotional a) best *i*)_____ *ii*) _____

b) worst *i*)_____ *ii*) _____

3) Graph Y_3 : When will you be at your intellectual a) best *i*)_____ *ii*) _____

b) worst *i*)_____ *ii*) _____

IV. Graph all three cycles at one time on your calculator and answer the following:

1) Which day will be the *best* overall for you? a) day: _____ b) actual date: _____
Hint: Find a point where two or all three of the graphs are above the x-axis.

2) Using complete sentences answer mathematically *why* it will be your best: _____

_____

_____

3) Which day will be the *worst* overall for you? a) day: _____ b) actual date: _____
Hint: Find a point where two or all three of the graphs are below the x-axis.

4) Using complete sentences answer mathematically *why* it will be your *worst*: _____

_____

_____

5) Some studies seem to show that more accidents happen on *critical days*, which are days when the physical cycle crosses the x-axis.
Which days will be your "bad luck" *accident prone* days? a) day: _____ b) actual date: _____

a) day: _____ b) actual date: _____

a) day: _____ b) actual date: _____

a) day: _____ b) actual date: _____

6) Some people claim that biorhythm patterns can help you make the best use of your time and energies and help avoid potential problems by knowing your high, low, and critical days. Others feel that by generating life-cycle data we are creating a "self-fulfilling prophesy". What is your position on this issue and why? Answer using complete sentences.

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