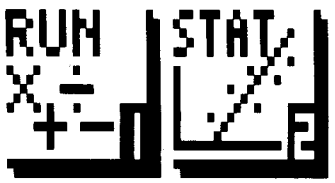


fx-7400G

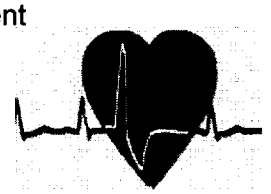
The Beat Goes On

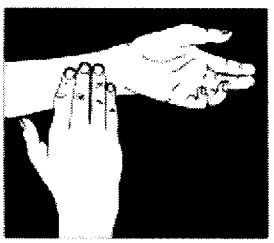
Rate
Average
Data Tables
Scatter Plots
Lists
Measurement

Topics: Problem Solving, Communication, Reasoning, Connections, Estimation, Algebra, Statistics, and Measurement

Materials: *fx-7400G*, Stop watch

Calculator Use: RUN and STAT Menus, OPTN, LISTS





Consider having a doctor, nurse, Emergency Medical Technician (EMT) or EMT certified police officer or fireman discuss taking a pulse by hand.

? represents a high level question

How to Enter a List

Enter the STAT menu.
Place cursor in List 1 row 1.
Enter value.
Press EXE.
Enter next value.
Press EXE.
Repeat process for remaining values.

How to Delete a LIST

Place cursor in desired List to delete.
Press
▷ (right of F4).
F2 (DEL-A).
F1 (YES).

How to Find Averages in the STAT Menu

Enter data in LIST 1
Press F2(CALC).
F4(SET).
Highlight 1VAR X:
Press F1(List1).
QUIT key.
F2(CALC).
F1(1VAR).

$\bar{x}$ is the mean or average

Your pulse rate is a measure of how many beats your heart makes in a minute. When your pulse is taken, usually, the individual counts beats for 15 seconds and multiplies by 4. Your pulse could be taken by counting for 5 seconds and multiplying by 12, or counting for 6 seconds and multiplying by 10, or eliminating multiplication by counting for 60 seconds.

? Why is 15 seconds times 4 the most common procedure? **A.**

Have your pulse taken by 5 people of the same sex and 5 people of the opposite sex. Record the results in table 1 below.

Pulse take by Girls	Pulse take by Boys

Table 1

What is your average pulse rate taken by girls? **B.** _____ By boys? **C.** _____

Have your pulse taken once immediately after you have been:

D. At rest _____ **E.** Walking Slowly _____

F. Trotting _____ **G.** Running Fast _____

The Beat Goes On

How to Draw a Scatter Plot

Enter the STAT menu
Enter the values 1 to 4 in LIST 1.
Fill LIST 2 using the values for 1 through 4.
Press QUIT
F1(GRPH)
▷ (right of F4)
F6(SET)
Highlight G-Type
Press F1(Scat)
Press QUIT
F1(GRPH)
F1(GPH1)

How to Alter a Data Graph

Press QUIT
F1 (GRPH)
▷ (right of F4)
F4 (SET)
Use the arrow keys to highlight the mode to change. For example, if you want your data points to be x's rather than little boxes, highlight **M-Type** and press **F2** (x).

How to Change Lists for a Scatter Plot

In the STAT Menu,
Press F1 (GRPH).
(right of F4).
F4 (SET) screen below

With StatGraph1 highlighted
Press F2 (GPH2).
Highlight XList.
Press F3 (LIST3).
Highlight YList.
Press F4 (LIST4).
Press QUIT key.
You have now set GPH2 for a scatter plot using List 3 and List 4.

A **scatter plot** is a collection of points that correspond to ordered pairs from data.

Enter 1,2,3,4 in the first four cells of LIST 1. Enter the "At rest", "Walking Slowing", "Trotting", and "Running fast" values in 1, 2, 3, and 4 respectively of LIST 2. Graph the results using a scatter plot similar to the one in Figure 1.

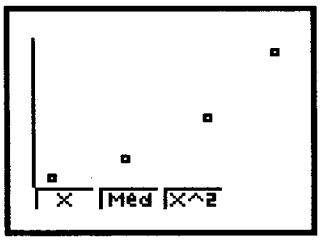


Figure 1

Figure 2

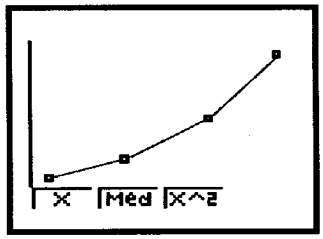


Figure 3

Connect the scatter plot data points by performing the following steps:

Press QUIT.
F1(GRPH).
▷ (right of F4).
F4(SET).
Press F2 (GPH2) want GPH1 to remain a scatter plot.

Highlight G-Type.
Press F2 (*xy*).
QUIT.
F1(GRPH).
F2 (GPH2) will provide similar to Figure 3.

Delete LIST 2. Have your pulse taken while at rest and after walking, trotting, and running fast. Repeat this 3 more times with 3 different people. Record the data from the first person in LIST 2, the second person in LIST 3, etc. to complete table 2.

	1	2	3	4
Rest				
Walk				
Trot				
Run				

Table 2

Delete all values in LIST 6. The following sequence of commands will allow you to average the values in LIST 2 through 5 and have the result show in LIST 6. Remember to highlight the top of LIST 6 first, then:

Press: OPTN
F1(LIST)
(
F1
2
+
F1
3
+
F1
4
+
F1
5
)
÷
4
EXE

Graph the data in List 6 by drawing a scatter plot using List 1 for XLIST and List 6 for YLIST for GPH3.

Is this graph similar to the one you originally did? **H.** _____
Why or Why not? **I.**