

Chapter 7 / **Example 3**

Pearson's product-moment correlation coefficient

A school basketball coach kept a record of the number of games played (x) and the number of points scored (y) for seven basketball players.

Player	Games (x)	Points (y)
Ali	3	9
Mateo	4	10
Jerry	4	20
Poom	4	16
Ayo	5	20
Chen	6	29
Jimmy	10	43

Use Pearson's correlation coefficient to determine the strength of the correlation between the number of games played and the number of points scored.

Press **MENU** 2 **STAT** to display the List Editor screen.

Enter the number of games in the first column.

Press **EXE** after each number to move to the next cell.

Note: If the list contains other numbers, you can clear it by pressing **F4** DEL-ALL.

	List 1	List 2	List 3	List 4
SUB				
1	3			
2	4			
3	4			
4	4			
				4
				GRAPH CALC TEST INTR DIST >

Press **▶** to move to the next column.

Enter the number of points in the second column.

	List 1	List 2	List 3	List 4
SUB				
1	3	9		
2	4	10		
3	4	20		
4	4	16		
				16
				GRAPH CALC TEST INTR DIST >

To calculate the correlation coefficient

Press **F2** CALC.

Press **F3** REG.

Press **F1** X

Press **F1** ax+b

```
LinearReg(ax+b)
a =4.83913043
b =-3.8869565
r =0.95706753
r²=0.91597826
MSe=14.1156521
y=ax+b
```

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$r = 0.957$.

Since $0.75 < r \leq 1$, this is a strong correlation.

```
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COPY