Shepherd
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1. For the following data, (a) write down the equation for the regression line, (c) sketch the regression line and (c) use the regression line to predict the y value if $x = 130$.

$$\begin{array}{llll} \text{x:} & \text{average} \approx 100, & \text{SD} \approx 15 \\ \text{y:} & \text{average} \approx 110, & \text{SD} \approx 30, & r \approx 0.8 \end{array}$$

2. For the following data, (a) write down the equation for the regression line, (c) sketch the regression line and (c) use the regression line to predict the y value if $x = 8$.

$$\begin{array}{llll} \text{x:} & \text{average} \approx 10, & \text{SD} \approx 2 \\ \text{y:} & \text{average} \approx 12, & \text{SD} \approx 6, & r \approx -0.2 \end{array}$$

3. For the small data set below left, $r \approx 0.76$. Find r for the other data sets.

x	y
1	2
2	3
3	1
4	5
5	6

x	y
2	1
3	2
1	3
5	4
6	5

x	y
1	0
2	1
3	-1
4	3
5	4

x	y
1	4
2	6
3	2
4	10
5	12

4. For the following data, calculate the correlation coefficient.

x	7	8	10	11	11	13
y	8	7	11	11	13	10