**MAT150.5 Statistics Assignment #6** [**www.helpyourmath.com/150.5**](http://www.helpyourmath.com/150.5)

1. Calculate the correlation coefficient for the number of years out of school and annual contribution data (in thousands of dollars).

* 1. Identify n and use a table to calculate ∑𝑥 , ∑𝑦 , ∑𝑥𝑦 , ∑𝑥2 , ∑𝑦2

* 1. Use the resulting sums and n to calculate r.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Number of years Out of school, 𝑥 | Annual contribution (in 1000s of $), 𝑦  | 𝑥𝑦 | 𝑥2 | 𝑦2 |
| 1  | 12.5  |   |   |   |
| 10  | 8.7  |   |   |   |
| 5  | 14.6  |   |   |   |
| 15  | 5.2  |   |   |   |
| 3  | 9.9  |   |   |   |
| 24  | 3.1  |   |   |   |
| 30  | 2.7  |   |   |   |

1. A researcher conducts a study to determine whether there is a linear relationship between a person’s height (in inches) and pulse rate (in beats per minute). The data are shown in the table below. Is it a weak correlation?

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Heights, 𝑥  | 68  | 72  | 65  | 71  | 63  | 74  | 78  | 64  | 68  |
| Pulse rate, 𝑦 | 91  | 84  | 89  | 100  | 106  | 97  | 70  | 65  | 72  |

1. A researcher conducts a study to determine whether there is a linear relationship between a person’s height (in inches) and pulse rate (in beats per minute). The data are shown in the table below

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Heights, 𝑥  | 68  | 72  | 65  | 71  | 63  | 74  | 78  | 64  | 68  |
| Pulse rate, 𝑦  | 91  | 95  | 87  | 94  | 84  | 97  | 100  | 85  | 92  |

* + 1. Find the correlation coefficient **r.**

* + 1. Find the regression equation.

* + 1. Graph the regression equation.