**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.