

### Quiz

The mathematics teachers constructed 50 item questions and wished to test the reliability of the test using test - retest method. The tests were given to 20 students. Results of the test are shown in the table below. Test the reliability of the test.

Student	X	Y	RX	RY	D	D <sup>2</sup>
1	35	45	18	9	9	81
2	45	50	5.5	1	4.5	20.25
3	28	47	20	5	15	225
4	37	40	16	6.5	9.5	90.25
5	45	42	5.5	13.5	-8	64
6	50	38	1	17	-16	256
7	39	37	13	18.5	-5.5	30.25
8	48	44	2	11.5	-9.5	90.25
9	40	45	10	9	1	1
10	33	49	19	2	17	289
11	36	37	17	18.5	-1.5	2.25
12	39	39	13	16	-3	9
13	40	41	10	15	-5	25
14	44	44	7.5	11.5	-4	16
15	47	42	3.5	13.5	-10	100
16	40	45	10	9	1	1
17	39	48	13	15.5	9.5	90.25
18	38	36	15	20	-5	25
19	44	48	7.5	9	4	16
20	47	46	3.5	9.5	-3	9
$\Sigma D^2 = 1440.5$						

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$$r_S = 1 - \frac{6 \Sigma D^2}{N^3 - N}$$

$$r_S = 1 - \frac{6(1440.5)}{20^3 - 20}$$

$$r_S = 1 - \frac{8643}{7980}$$

$$r_S = 1 - 1.08302707$$

$$r_S = -0.08 \text{ or } \underline{0.08}$$

This shows that there is no correlation.