

TEST YOUR KNOWLEDGE: Correlation

A researcher wants to determine whether there is a significant relationship between how much time high school students spend on social media such as Facebook and high school average. She randomly samples 20 students. The data is below:

<u>X (hours spent with social media per week)</u>	<u>Y(high school average)</u>
0	96
0	88
1	67
2	79
3	82
4	88
5	97
6	77
7	88
8	99
9	59
11	58
15	60
18	87
18	64
19	70
20	66
25	70
33	59
40	47

$$\sum X = 244; \quad \sum Y = 1,501; \quad \sum XY = 16,192; \quad \sum X^2 = 5354; \quad \sum Y^2 = 116,997$$

- Calculate the correlation coefficient and test for significance.
- Explain your results.