**Sea Glass**

Sea glass, pieces of glass tumbled smooth by the ocean, are considered to be a treasure by many people. The last time Alicia visited the ocean, she looked for sea glass on the beach every day. The table below shows how much sea glass she found based on the number of hours that she spent on the beach.

1. Graph the data by hand on the coordinate plane below.

|  |  |
| --- | --- |
| Hours on the Beach each Day | Pieces of Sea Glass Found |
| 1 | 2 |
| 2 | 8 |
| 4 | 3 |
| 6 | 5 |
| 8 | 7 |
| 10 | 8 |

1. Enter the data into L1 and L2 on your calculator.
2. Use your calculator to find the regression line. Record the equation below.

Equation:

1. Find the correction coefficient.

Correlation coefficient:

1. Graph the regression equation on the axes above. Circle the outliner on the graph.
2. Remove the outlier from the lists in your calculator. Now find the new regression line and record it below.

Equation:

1. Find the new correlation coefficient and record it below.

Correlation coefficient:

1. Use both regression equations to predict how many pieces of sea glass Alicia would find after 7 hours on the beach.

a) Prediction with outlier:

b) Prediction without outlier:

1. Which regression equation do you think is a better predictor of the amount of sea glass Alicia will find? You may want to plot the points you found in question (8) on the scatterplot to see which prediction is “better”.
2. Use the regression equation which you think provides a better prediction to predict how many hours Alicia would need to be on the beach to find 3 pieces of sea glass.