## Notes 9.2 Linear Regression

## Regression line - Line of best fit

When determining the equation of a regression line, it is helpful to construct a scatter plot of the data to check for:
$\bullet$
$\bullet$
$\bullet$

## Example:

The number of hours 12 students spent online during the weekend and the scores of each student who took a test the following Monday are given below:

| Hours spent online, $x$ | 0 | 1 | 2 | 3 | 3 | 5 | 5 | 5 | 6 | 7 | 7 | 10 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Test score, $y$ | 96 | 85 | 82 | 74 | 95 | 68 | 76 | 84 | 58 | 65 | 75 | 50 |

a. Sketch a graph of the distribution.
b. Find the regression line
c. Find the correlation coefficient.
d. Use the regression line to predict the test scores given the time online:
$x=4$ hours $x=9$ hours
$x=15$ hours

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Assignment: new: pgs 519/17, 19, 20

