## Course MTH110 - Basic Statistics

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## Homework 7

(Return date: 26.2.2003)

## Linear regression analysis

The growth of children follows a straight line patter between early childhood and adolescence. Here are date on Sarah's growth between the ages of 36 months and 60 months.

| Age <br> (months) | 36 | 48 | 51 | 54 | 57 | 60 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Height <br> $(\mathrm{cm})$ | 86 | 90 | 91 | 93 | 94 | 95 |

a) Make a linear regression analysis. Compute the slope and intercept. Display scatterplot of the given data set and linear regression line.
b) Sarah's growth rate is the number of centimeters she grows each month (on the average).Use results from linear regression analysis to find her growth rate.
c) Use your regression line to estimate Sarah's height at age 42 months.

