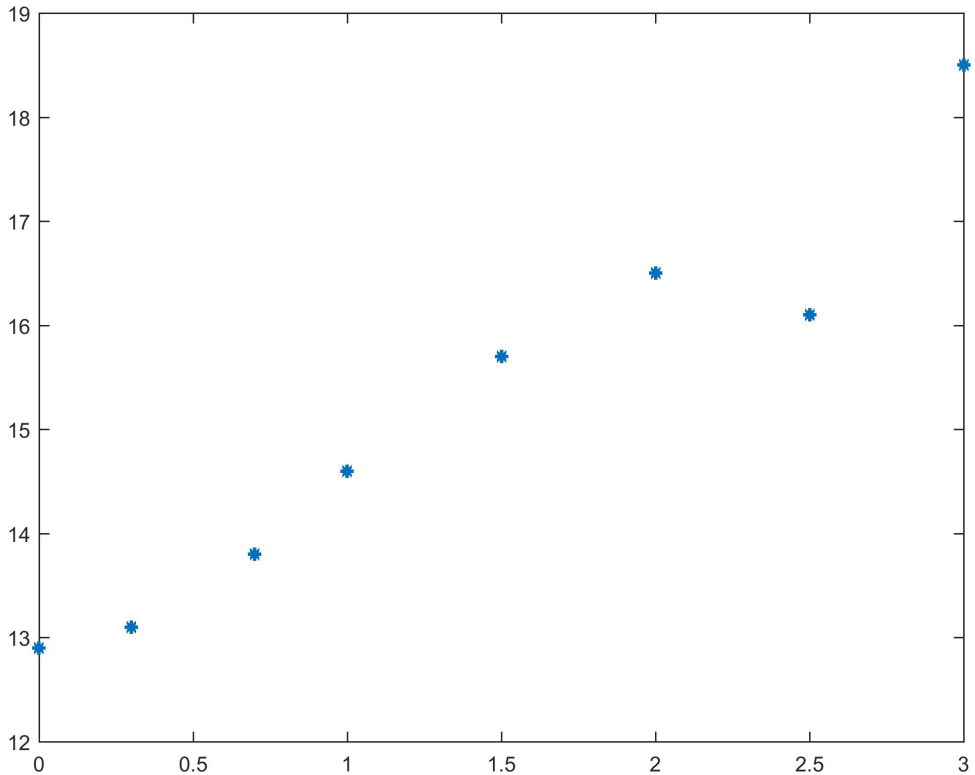
Regression

Vi har följande dataserie:

F-halt(x_i)	0	0.3	0.7	1	1.5	2	2.5	3
Elast(y_i)	12.9	13.1	13.8	14.6	15.7	16.5	16.1	18.5

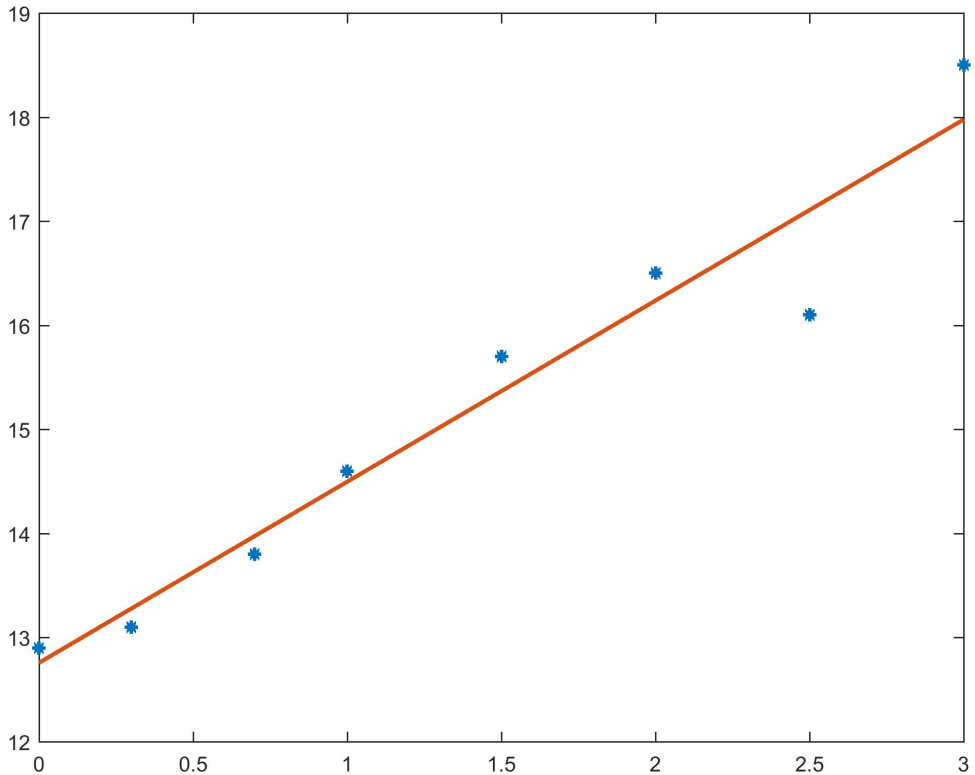


Figur: Punktplot.

Regression

Använd att $S_{xx} = \sum_{k=1}^{8}(x_k - \bar{x})^2 = 7.9550$, $S_{xy} = 13.84$ så att

$$\hat{\beta}_1 = \frac{S_{xy}}{S_{xx}} \approx 1.74 \text{ och } \hat{\beta}_0 = \bar{y} - \hat{\beta}_1 \bar{x} \approx 12.8.$$

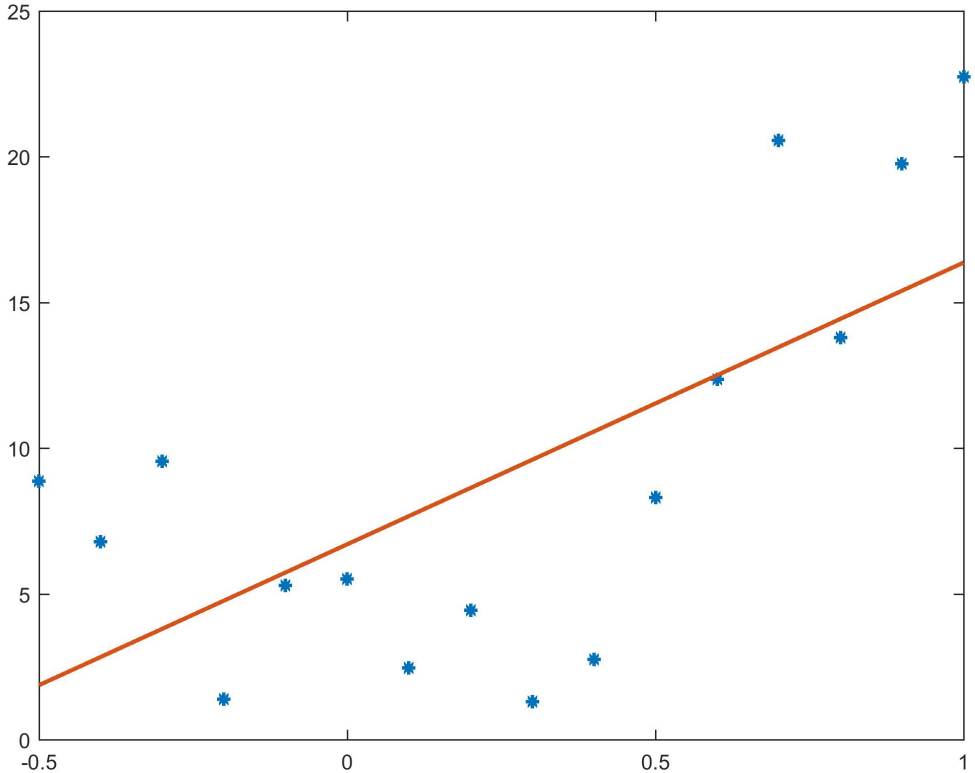


Figur: Punktplot med regressionslinje, $R^2 \approx 0.94$.

Regression

En andra dataserie (x=-0.5:0.1:1)

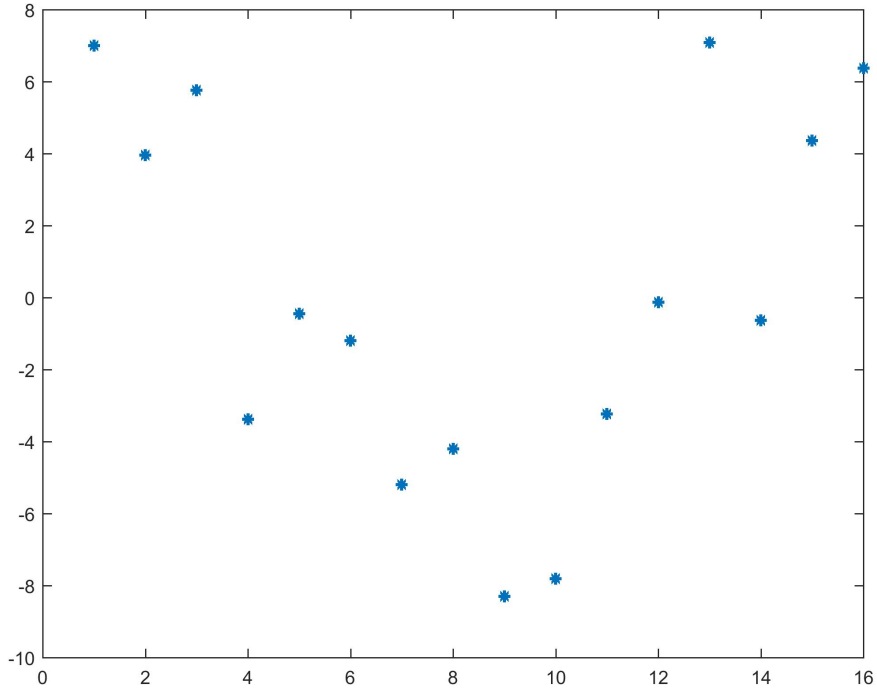
$y_1 - y_8$	8.87	6.79	9.56	1.39	5.29	5.51	2.47	4.44
$y_9 - y_{16}$	1.3	2.76	8.31	12.37	20.56	13.80	19.76	22.75



Figur: Punktplot med regressionslinje.

Regression

Motsvarande residualer



Figur: Residualerna

Förklaringsgraden:

$$R^2 = \frac{S_{xy}^2}{S_{xx} S_{yy}} \approx 0.439$$