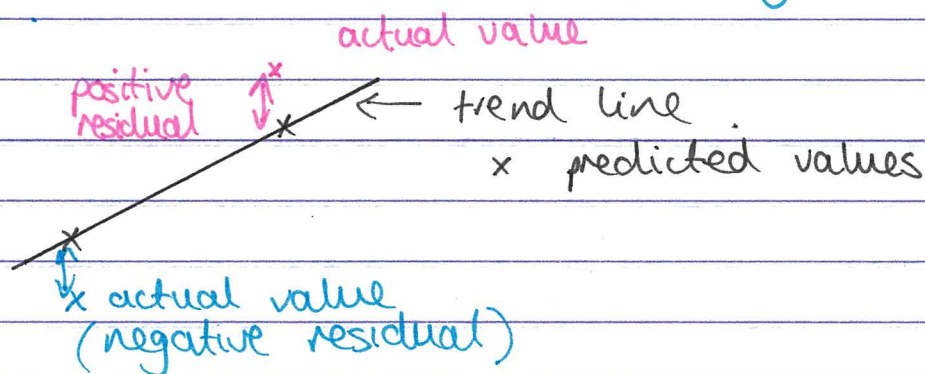


①

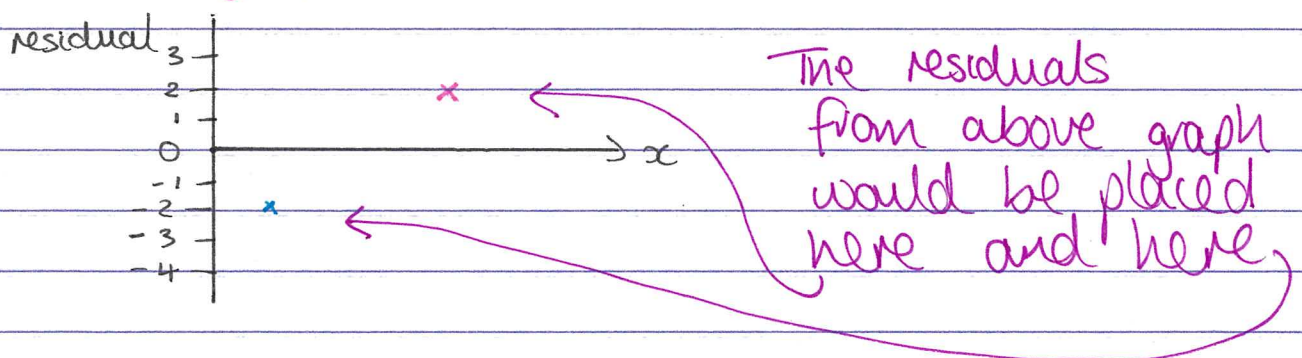
## The Residual Plot

Recall that residuals are the differences between the actual value and the value predicted by the trend line (line of best fit)

Some residuals will have a positive value, others will have a negative value.

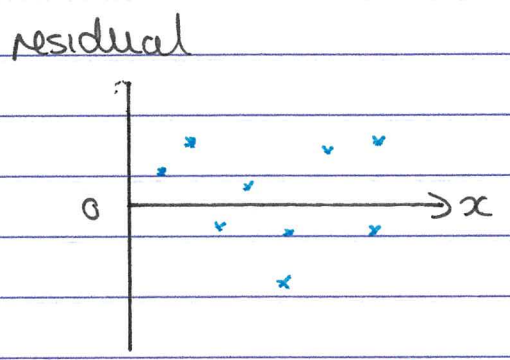


A residual plot simply puts these values on a graph.

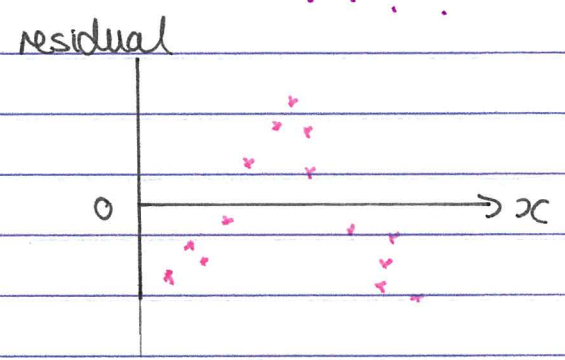


To be a good fit for a linear regression line there must be NO clear pattern on a residual plot.

This means if there is a pattern, the assumption of LINEAR REGRESSION is WRONG OK ??/!



- \* no clear pattern
- \* confirms linear relationship exists



- \* pattern exists
- \* NOT a linear relationship

So .....

when performing a regression analysis you need to construct a residual plot to help determine if a LINEAR relationship exists or not.

Using your CAS to do residual plots

- ① construct scatter plot from the data
- ② Then menu → analyze → regression → a+bx
- ③ Then menu → analyze → residuals → show plot

This brings the 2 plots up together

**NOTE**!: To just view residual plot, you can change the y axis variable to stat.resid as long as you have performed the regression.