

## Calculators

Are we over dependent?

Calculators are an integral part of school life but do we reach for the calculators for even the simplest of questions.....

## Our hypothesis.....

“Second level students are over reliant on calculators which affect their basic mathematical skills”.

## Our plan of action.

- To test our hypothesis a simple maths test was administered to across section of second level students.
- The test is attempted firstly without a calculator.
- It is then attempted with a calculator.
- The results are noted and range and mean calculated for both sets.

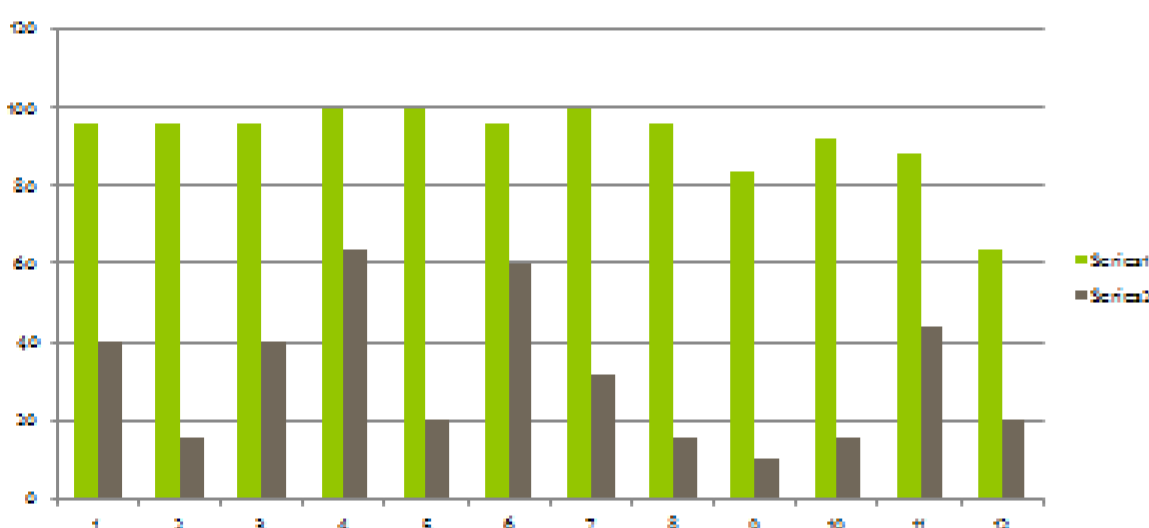
## Results Table.

With Calculator. %	Without Calculator. %
96	40
96	16
96	40
100	64
100	20
96	60
100	32
96	16
84	10
92	16
88	44
64	20

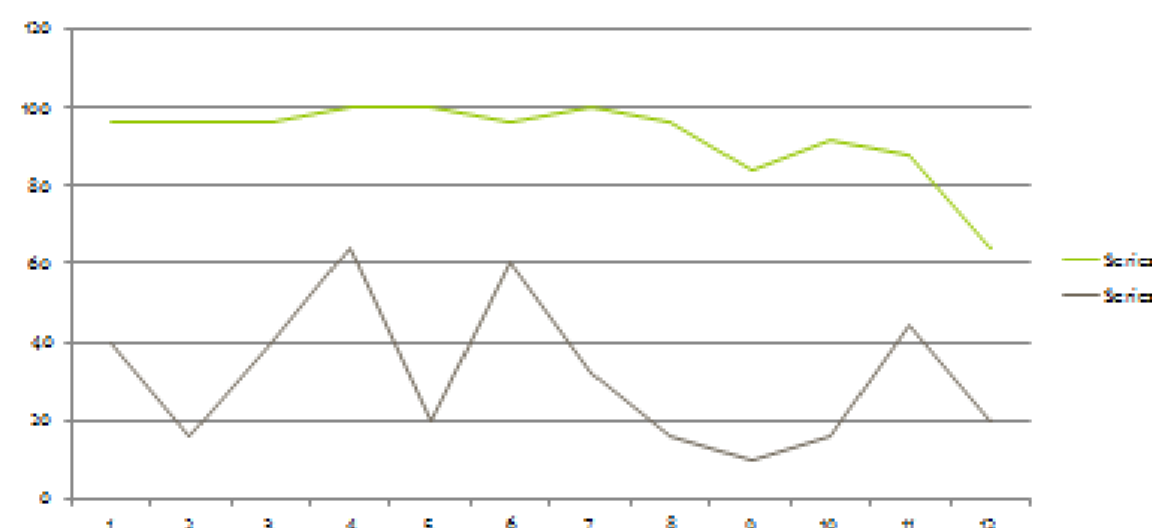
## Mean and Range.

- \* With Calculator the mean is 92.33%.
- \* Without Calculator the mean is 31.5%.
- \* With Calculator the range is 36%.
- \* Without Calculator the range is 64%.

## Column Chart of Results.



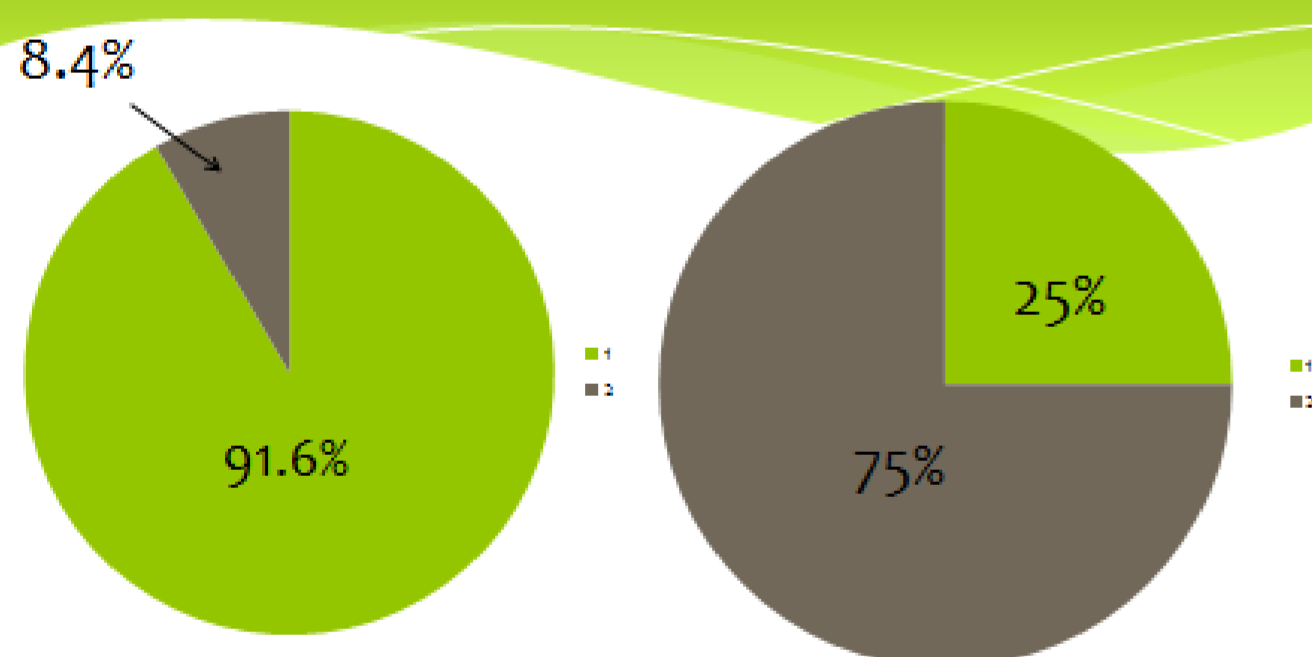
## Line graph of results.



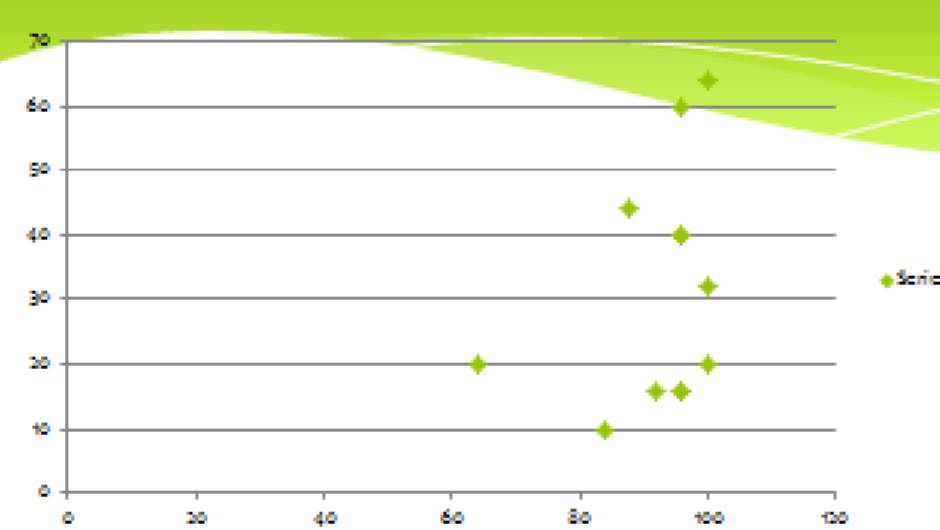
## Possible errors.

- \* Small sample size.
- \* Took a sample from one year and not the whole school.

## Blue= correct response to Q.25



## Scatter plot

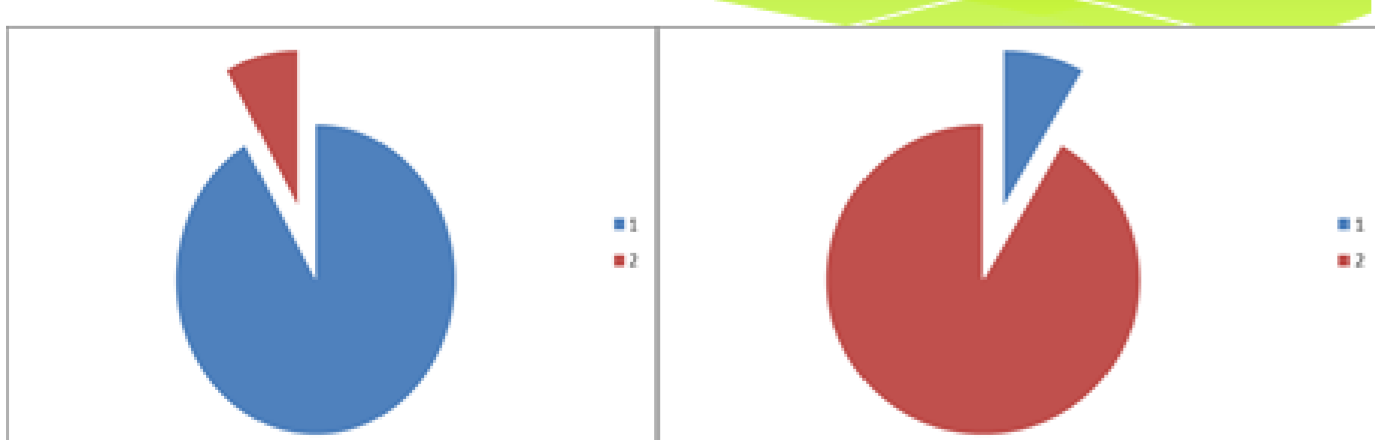


There is no correlation, this shows that no matter what level you are at, the calculator works!

## Question 19... basic maths

- The question is  $3006 \div 6 \dots$
- \* 91.6% got this correct using a calculator.
  - \* Only 8.4% got the right answer without a calculator.

## Blue is correct response....



## Question 25..... Every day maths.

A pack of 6 oranges costs €2.40. They cost 32 cent each. Which is cheaper?

- \* With the calculator 91.6% got it correct.
- \* Without a calculator 25% got it correct.
- \* This proves that there is most definitely an over dependence on calculators.

## Conclusion.

We accept the hypothesis that calculators are over used based on test results and individual question results. This can be seen clearly from charts and diagrams.