

Teaching an Old Dog New Tricks

Maths FET

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Substitution

- E.g. $A^2 + 3B - C$
- $A = 4$, $B = -2$ and $C = 5$
- Store these values:
 - 4 **STO** **CNST**
 - **(-)** 2 **STO** **yx**
 - 5 **STO** **x²**

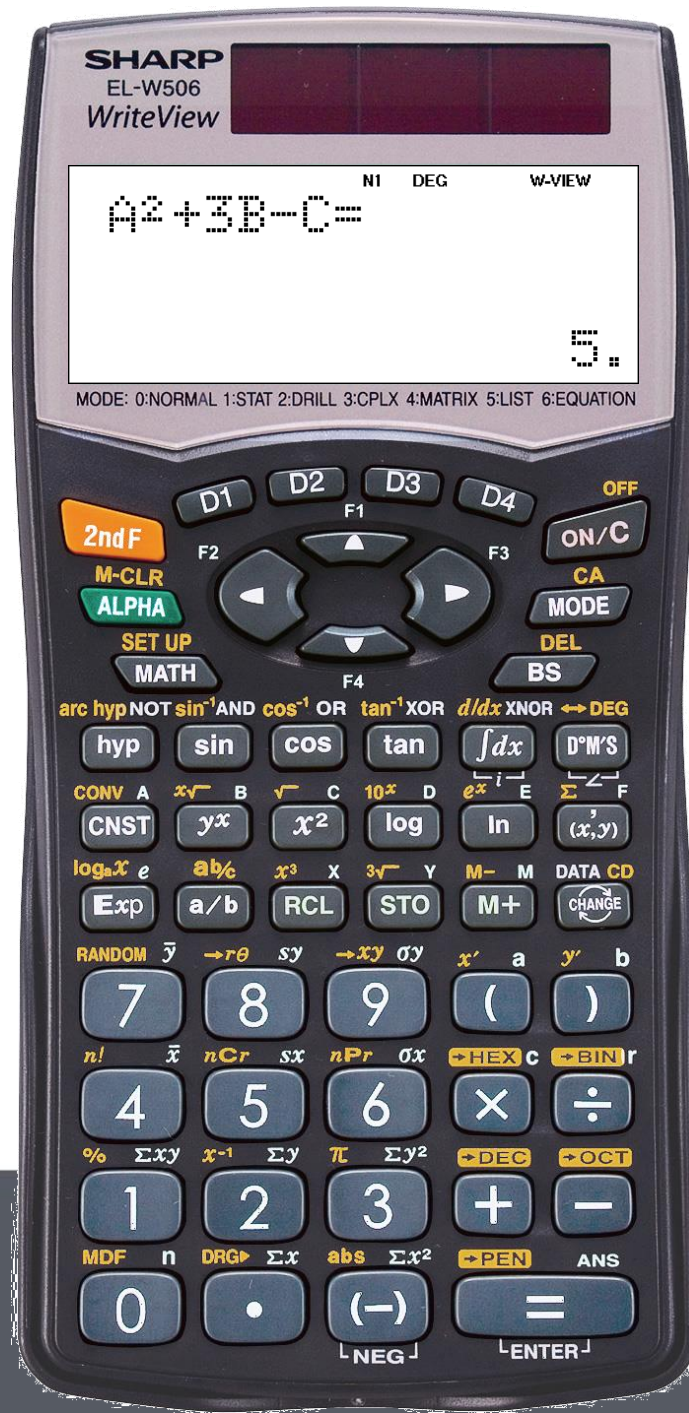


Substitution

- Now type in the expression:

- E.g. $A^2 + 3B - C$

- ALPHA CNST x^2
- + 3 ALPHA yx
- - ALPHA x^2
- =
ENTER

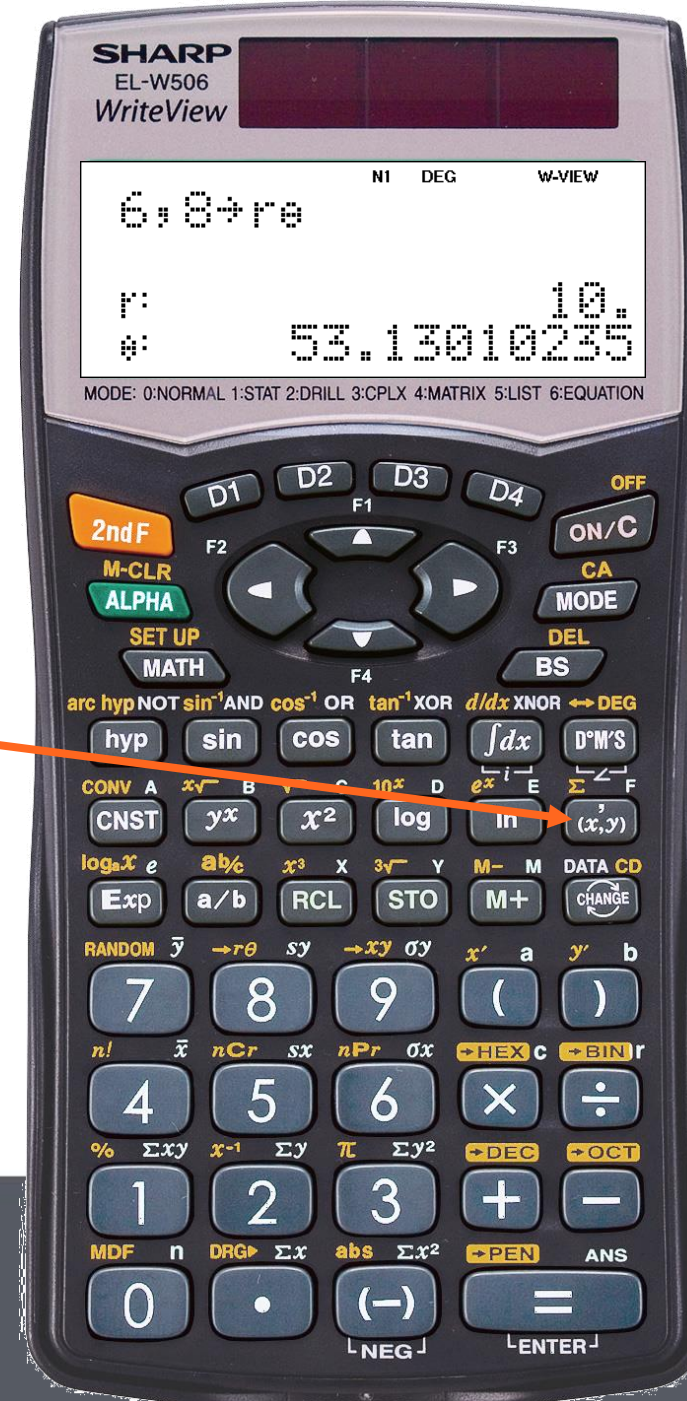


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Pythagoras



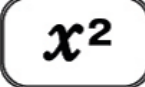





- This only works if we are looking for the hypotenuse of a right-angled triangle.
- Type in the shorter sides (or x and y values) of the triangle, e.g. our triangle has sides 6 and 8, so we type in 6 then (x,y) .
- Now press **2ndF** (8) .
- This gives us the hypotenuse (r) and the angle (θ) the hypotenuse makes with the base.

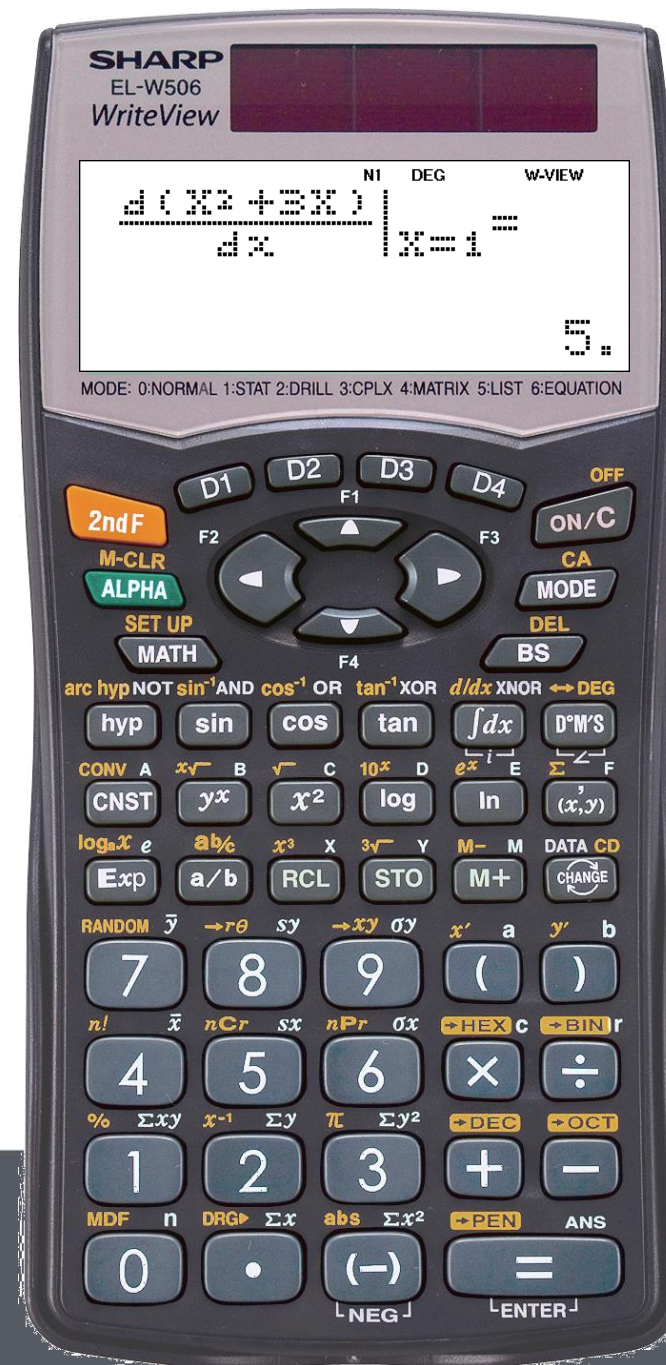


Differentiation

- To find the derivative of $x^2 + 3x$ at $x = 1$

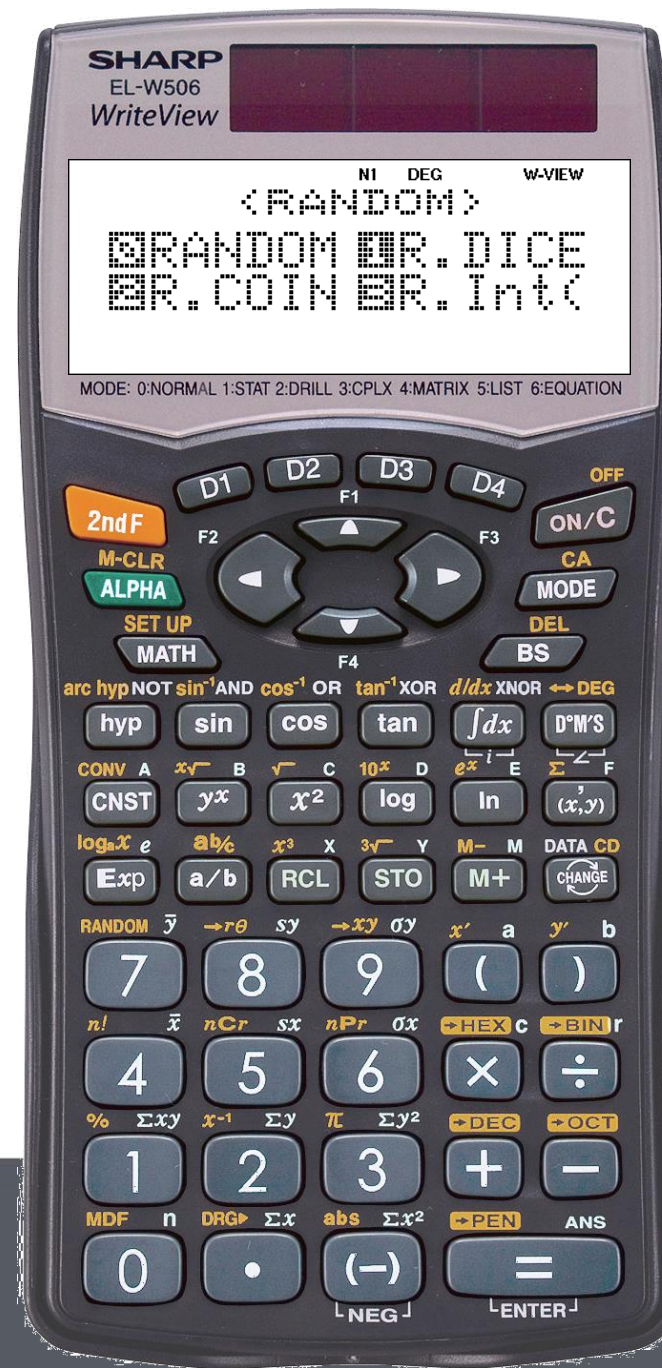
- Press **2ndF** 

-   
-  3  
-  1 



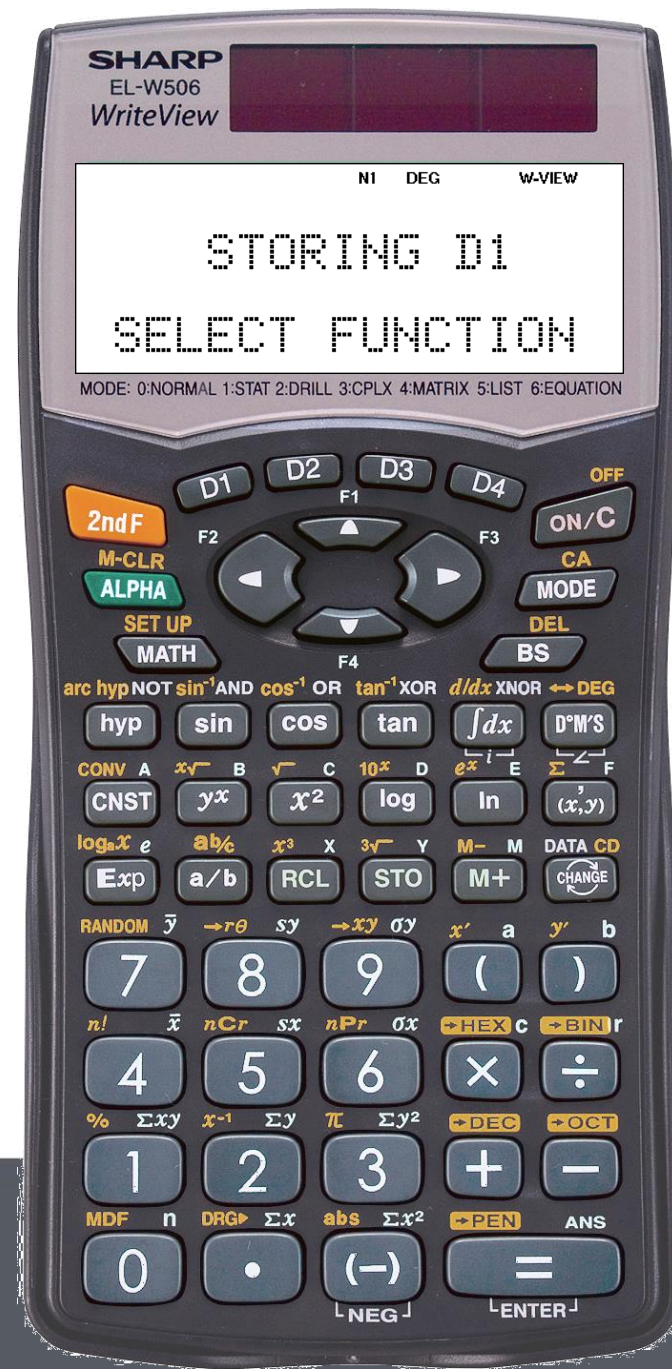
Random Function

- Press **2ndF** 7
- 4 options:
 - 0: RAND
 - 1: R-DICE
 - 2: R-COIN
 - 3: R-INT
- Press **=** to generate the random numbers



D-Keys






- Press **STO** **D1**
- **2ndF** **sin⁻¹AND** **sin**

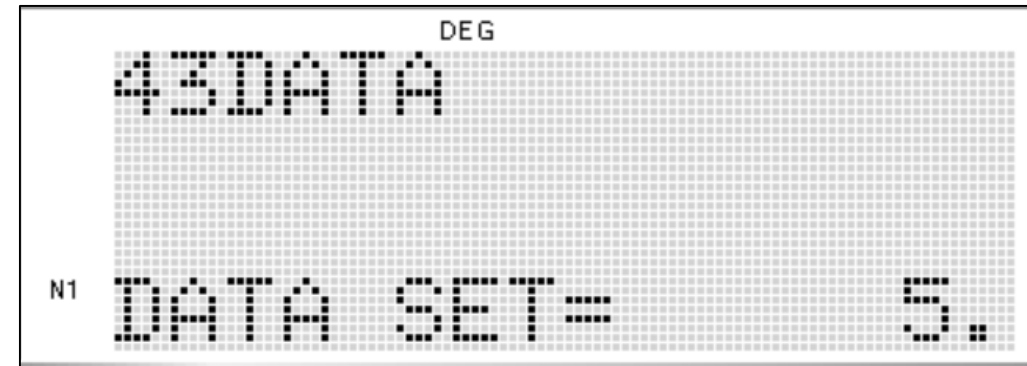
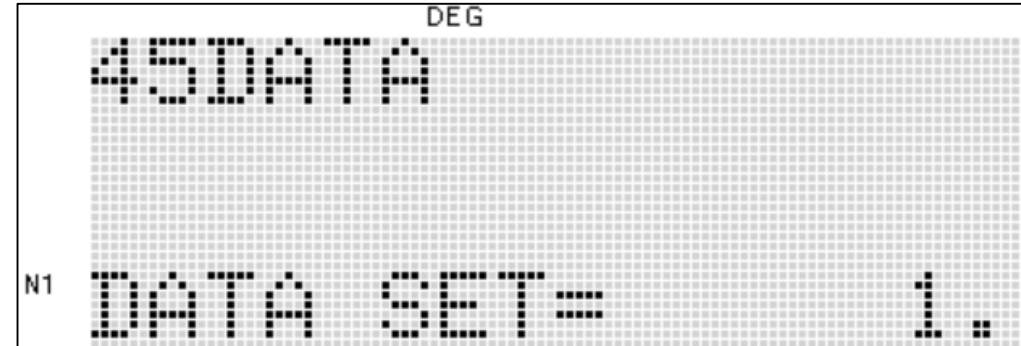


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Statistics

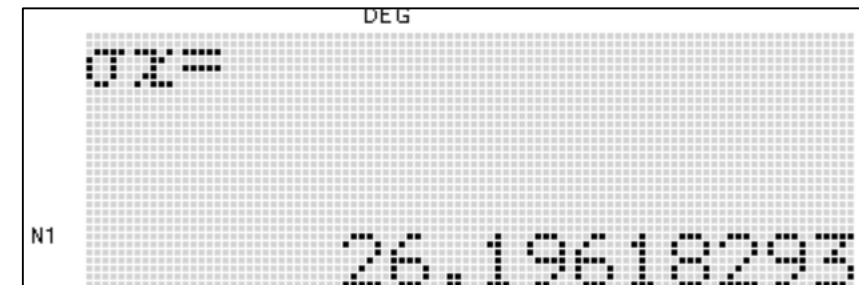
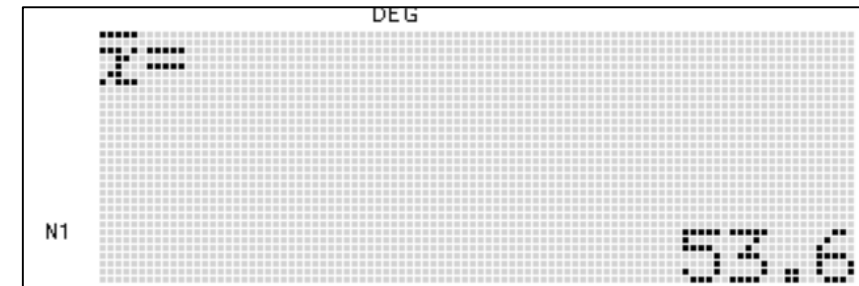
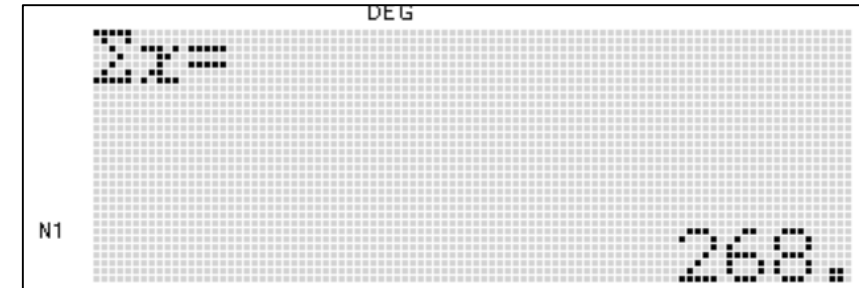
- **MODE** 1 For STAT
- Choose 0 for SD
- E.g. 45, 76, 89, 15 and 43
- Type in 45 
- 76  89 
- 15  43 



Sum, Mean and Standard Deviation

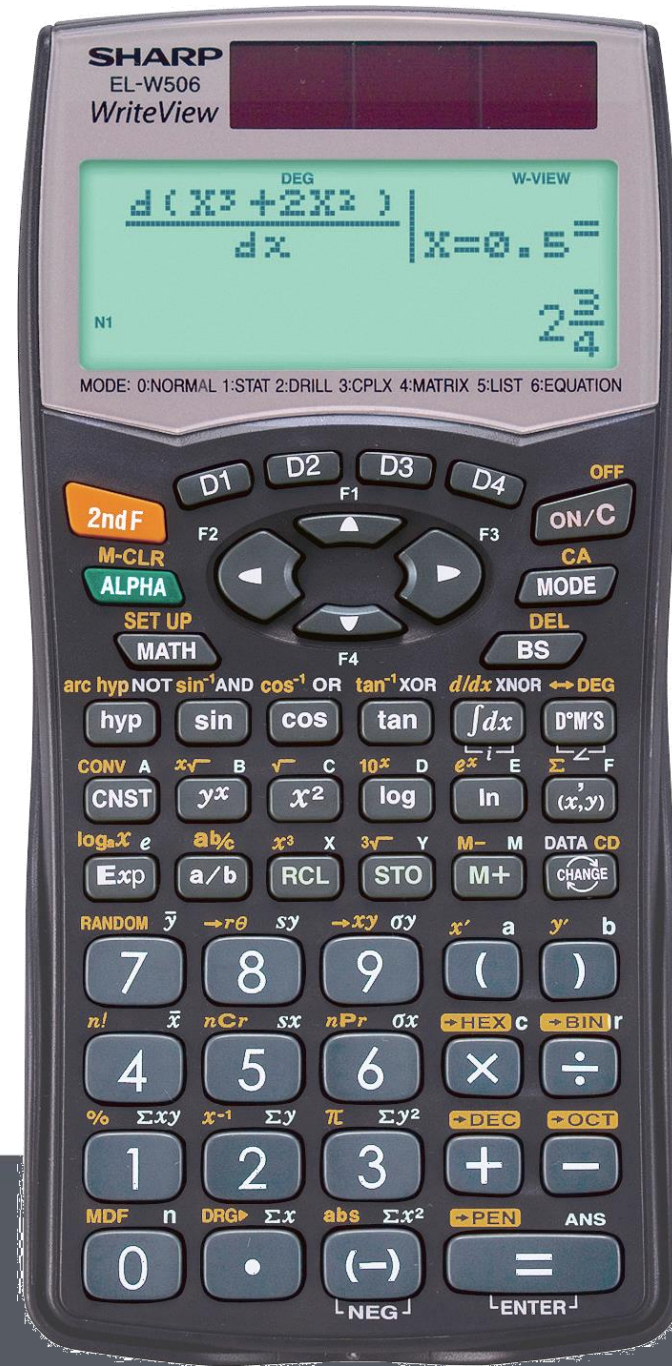
- To find the sum of your data press **ALPHA** $\overset{\text{DRG}}{\Sigma x}$ **=**
- To find the mean press **ALPHA** $\overset{n!}{\bar{x}}$ **=**
- To find the standard deviation press **ALPHA** $\overset{nPr}{\sigma x}$ **=**

To clear the data, and input a new set, press 2ndF MODE.



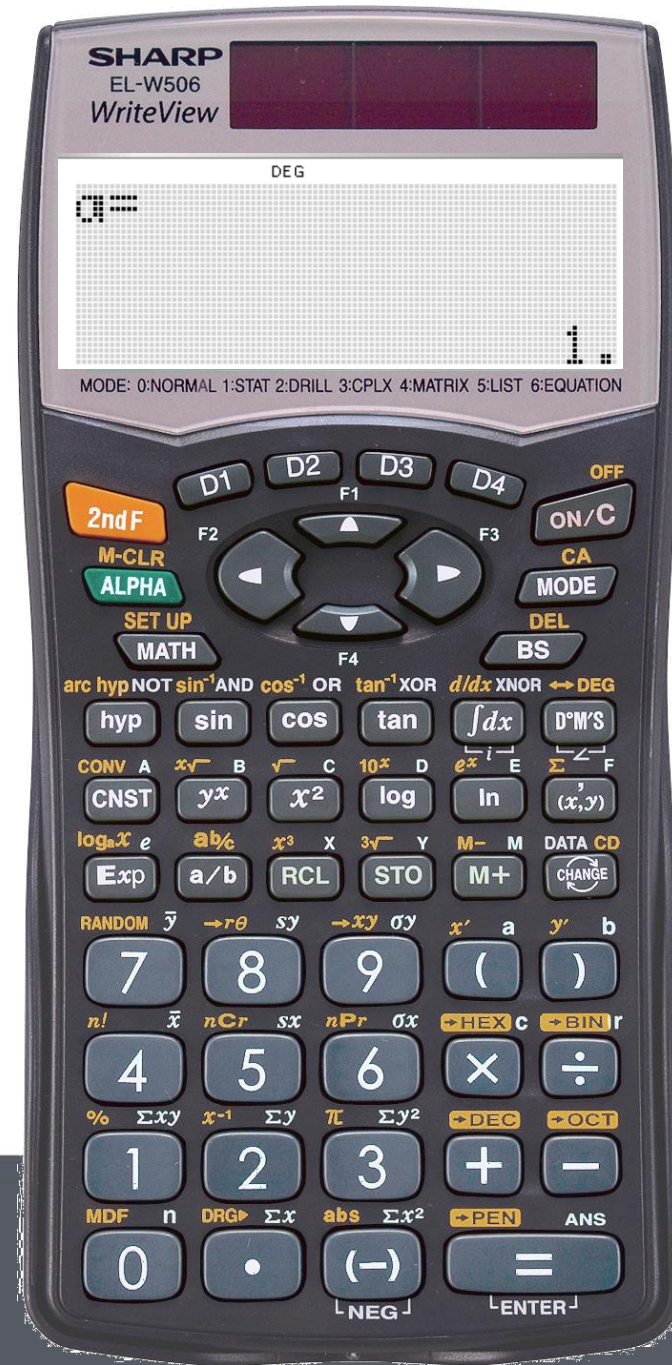
Linear Regression

- Press MODE 1 1 for LINE
- Type in the coordinate pairs:
 - 1 (x', y') 4 CHANGE
 - 2 (x', y') 7 CHANGE
 - 3 (x', y') 10 CHANGE
 - Etc.



To find the linear regression equation

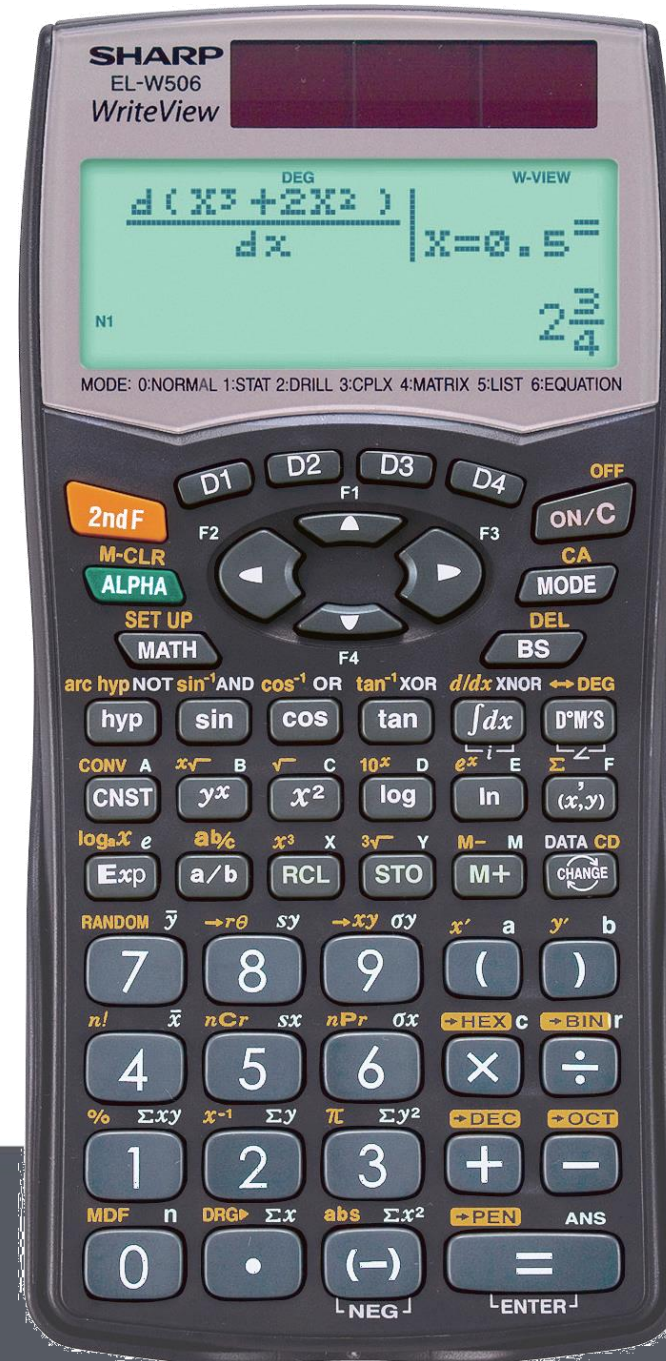
- Press **ALPHA** $($ x' a
 - To find the y-intercept
- Press **ALPHA** $)$ y' b
 - To find the gradient
- Press **ALPHA** \div \rightarrow BIN r
 - To find the regression coefficient.



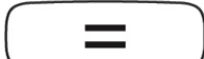

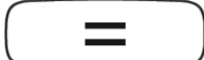

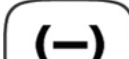


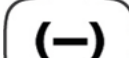
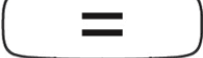



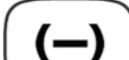


Simultaneous Equations

- Press MODE 6
- $y = 3x^2 + 4x - 8$
- $y = -7x^2 + 5x - 10$

- Choose 0



Simultaneous Equations cntd:

- $a1 = 3$  
- $b1 = 4$  
- $c1 = (-) 8$   
- $a2 = (-) 7$   
- $b2 = 5$  
- $c2 = (-) 10$   





N1 DEG
a1 = 3.
b1 = 4.
↓

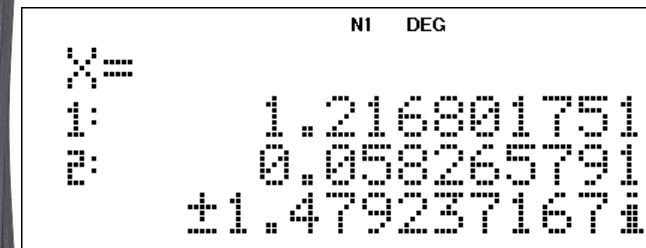
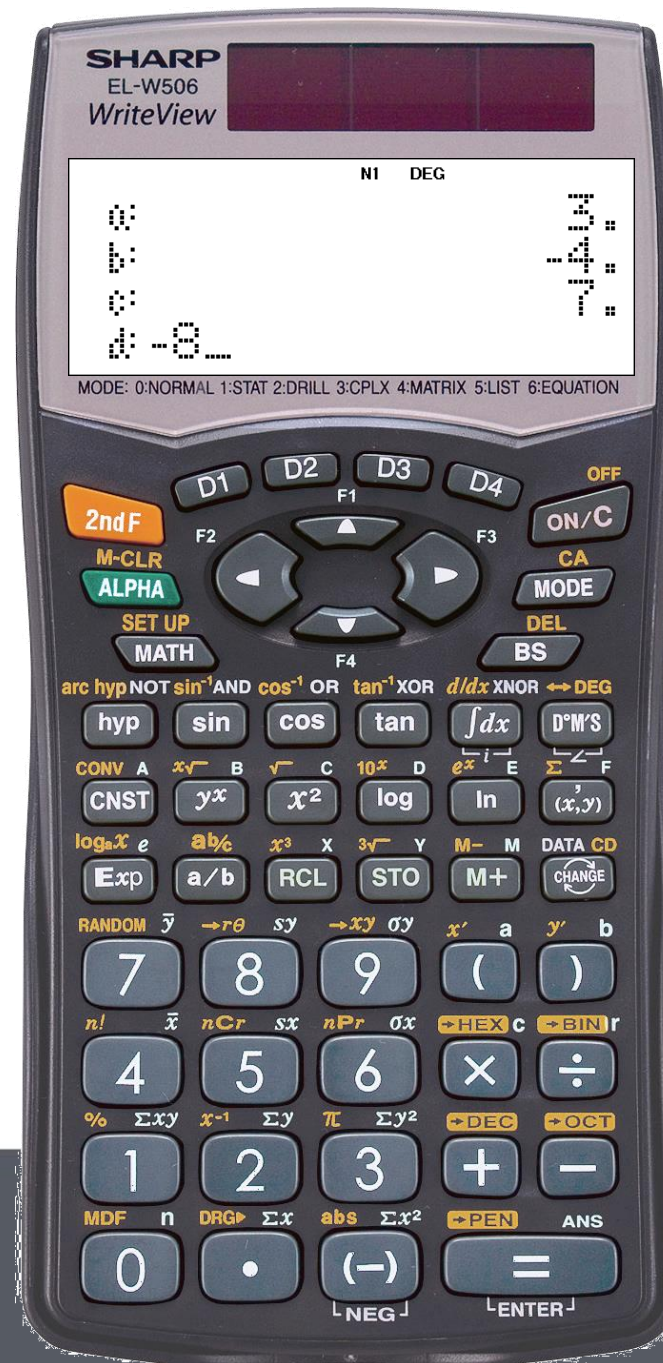
N1 DEG
↑
c2 = 10.
=

N1 DEG
X: 0.
Y: 2.
D: 43.

Cubic Equation

- Press MODE 6
- 3 (For Cubic)
- $y = 3x^3 - 4x^2 + 7x - 8$

- $a = 3$ 
- $b = (-) 4$ 
- $c = 7$ 
- $d = (-) 8$ 



Thank you 😊

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