Teaching an Old Dog
New Tricks

Maths FET
Substitution

• E.g. $A^2 + 3B - C$
• $A = 4$, $B = -2$ and $C = 5$
• Store these values:
  • $4 \text{ STO} \text{ CNST}$
  • $(-) 2 \text{ STO} y^x$
  • $5 \text{ STO} x^2$
Substitution

- Now type in the expression:
  - E.g. $A^2 + 3B - C$
  - \( \text{ALPHA} \) CNST \( x^2 \)
  - + 3 \( \text{ALPHA} \) \( y^x \)
  - - \( \text{ALPHA} \) \( x^2 \)
  - =
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 8.

Now press 2nd F 8

This gives us the hypotenuse (r) and the angle ($\theta$) the hypotenuse makes with the base.
Differentiation

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

• Press $2\text{ndF}$

• $\text{RCL RCL } x^2$

• $+ 3 \text{ RCL RCL}$

• $1 = \quad \text{ENTER}$
Random Function

• Press \( \text{2ndF} \) 7

• 4 options:
  • 0: RAND
  • 1: R-DICE
  • 2: R-COIN
  • 3: R-INT

• Press \( \text{=} \) to generate the random numbers
D-Keys

• Press **STO** D1

• **2ndF** sin

![Sharp EL-W506 WriteView Calculator]

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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 \( \text{ALPHA} \) \( \bullet \) \( = \).
- To find the mean press \( \text{ALPHA} \) \( 4 \) \( = \).
- To find the standard deviation press \( \text{ALPHA} \) \( 6 \) \( = \).

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
  - 2 \((x,y)\) 7
  - 3 \((x,y)\) 10
  - Etc.
To find the linear regression equation

• Press **ALPHA** [\(x'\)]
  • To find the y-intercept

• Press **ALPHA** [\(y'\)]
  • To find the gradient

• Press **ALPHA** [\(\text{BIN}r\)]
  • 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:

- $a_1 = 3$
- $b_1 = 4$
- $c_1 = 8$
- $a_2 = 7$
- $b_2 = 5$
- $c_2 = 10$
Cubic Equation

- Press MODE 6
- 3 (For Cubic)
- \( y = 3x^3 - 4x^2 + 7x - 8 \)
- \( a = 3 \)
- \( b = 4 \)
- \( c = 7 \)
- \( d = 8 \)

\[ \begin{align*}
1: x_1 &= 1.216801751 \\
2: x_2 &= 0.058265791 \\
\pm 3: x_3 &= 1.4792371671
\end{align*} \]
Thank you 😊
Check out www.mathsatsharp.co.za
And don’t forget to like us on Facebook 😊