

## On the Subject of Subtract Nauseam

*He made everyone do an open book test and forgot to add a deadline for this.*

Pressing any of the four directional buttons will activate the module for the first time.

Once active, the module will begin counting up the time taken and give a series of 10 prompts on the center screen. Each of the four directional buttons will display a digit, one of these digits is the correct response to each of the prompts.

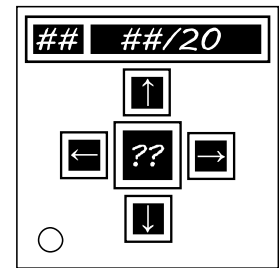
The formats of the prompts may be:

- Q#- The correct answer is the last digit of the current question number. The question number itself is hidden when this prompt is given. (1)
- ODD/EVEN- The correct answer is the only one with the displayed parity. (2)
- MIN/MAX- The correct answer is the smallest/largest of the four possible answers. (2)
- X#- The correct answer is the result of displayed operation with the previous correct answer substituted into X. (1)
- #o#- The correct answer is the result of displayed operation. (4)

(#) refers to how many of those prompts can show up on each attempt.

Take note of the values of the correct answers and the directions of the buttons on which they were displayed. Once all 10 prompts have received correct responses, these will be used to determine the passcode:

1. Take the sum of the values and convert it into base 3. Take the last 4 base-3 digits of this result, padding leading 0s into the result if there aren't 4 digits. (I.E. 11 into base 3 is 0102, after leading 0s)
2. On the grid of symbols below- start at the center of the plus marked in gray. Use the grid of numbers to determine how the symbols should be obtained.
  - For the first direction noted, rotate the grid of numbers so that 1 is facing that direction.
  - Then for each set of 3 directions after the first direction:
    - If the three directions are distinct, move 1 step in the direction NOT present.
    - Otherwise, move 1 step in the direction that occurred the most within the 3 directions, UNLESS the previous movement followed this action and direction, stay where you are.
  - Take the symbols, in the order marked by the transformed plus after performing the movements. Omit the symbol NOT present on the module.
3. Take the first occurrences of each letter in the serial number and assign the symbols to each.
  - Arrange these letters into reverse alphabetical order and rearrange the symbols accordingly.
  - If there are less than four distinct letters in the serial number, apply the above steps to **only** the last symbols, leaving the first symbols in place.
4. The digits 0-3 are encoded as the symbols in the rearranged set from left to right, with 3 representing the submit button for that symbol.
5. Encode the base 3 digits obtained in step 1 into symbols and enter them into the module.



	1	
4	5	2
	3	

				\$				
			&	£	#			
		£	#	%	\$	&		
	#	%	\$	&	£	#	%	
%	\$	&	£	#	%	\$	&	£
	£	#	%	\$	&	£	#	
		\$	&	£	#	%		
			#	%	\$			
				&				

The entered symbols are submitted into the module when the symbol representing the submit button is pressed. Note that the module will only process the last 4 symbols entered. If the submission matches the module's passcode, the module will solve and reset.

The module will strike and reset if:

- A wrong answer is given to a prompt.
- The submission does not match the passcode or is incomplete.

**If the module is already solved when any of the conditions above are performed, it will NOT contribute to a real strike.**

In the reset state, the module originally displaying a prompt will show a grade based on how fast the attempt was made, or "F" if the any of the actions caused a strike on the last attempt.

- Pressing any blank screen will activate a new attempt.
- Pressing the left and right arrows will scroll between each attempt performed on this module.
- If the selected attempt answered 10 prompts correctly, pressing up (labeled T) will toggle between the following on both of the bottom screens:
  - The time taken for this attempt and the amount of prompts answered correctly, out of 10.
  - The expected calculated sum (where the timer usually be) and the decoded base-3 digits submitted onto the module.