

On the Subject of The Cube

The mothership has been contacted. They've sent an executive toy...

- This module has a rotating cube, four wires, two elongating displays, and nine buttons.
  - To progress to the next stage, push down correct square buttons, then press the round button. Complete all eight stages to disarm the module.
  - Correct pushes are determined by a Key, calculated out of various values. The values are associated with different pieces of module information.
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Part 1: Preparing the Values

- a. The cube has six faces, each with a digit from 0-9. To the right is a net of the cube, with the order of face digits from 1 to 6, shown in their proper orientation.

• 1

2

• 6

<- green

345

<- red
- b. The wires extend from the starting hub at top-left corner, ordered by their positions there from top to bottom.

Red	( modules on bomb ) + 7	Orange	( green square buttons ) + 3
Green	( blue square buttons ) + 7	Purple	sum of all digits on cube
Blue	( position of wire ) + 5	White	= 6

- c. The cube will do six movements in order, then pause briefly and repeat. Movements are observed from an aerial perspective upon module base.

	last digit in serial number		= 4
	first digit in serial number		= 7
	square buttons with same colour as 3rd wire		
	square buttons with same colour as 1st wire		

- d. The left and bottom displays have eight symbols each. Convert the symbols to digits from top to bottom, left to right.

1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7

## Part 2: Calculating the Key

1. Generate left to right digits of a 6-digit number from values you've got:

Digit 1 = ( 1st movement value + 6th face digit + 3rd wire value ) modulo 10 ;

Digit 2 = ( 2nd movement value + 5th face digit + 4th wire value ) modulo 10 ;

Digit 3 = ( 3rd movement value + 4th face digit + 1st wire value ) modulo 10 ;

Digit 4 = ( 4th movement value + 3rd face digit + 2nd wire value ) modulo 10 ;

Digit 5 = ( 5th movement value + 2nd face digit ) modulo 8 ;

Digit 6 = ( 6th movement value + 1st face digit ) modulo 9 .



































2. Take the 6-digit number above and multiply it by 100.

Add that with the converted left and bottom displays, but disregard any and all carry digits during the operation.

The resulting 8-digit number is your Key.

## Part 3 : Finding the Pushes

For each stage, use the digit of the Key in the position matching current stage number, ordered from the left, to get a group of symbols:

	0	   				1	   				
2	  			3	  			4	  		
5	  			6	  			7	  		
	8	   				9	   				

Only push down square buttons as follows, before pushing the round button:

- Stage 1, 3 or 5: Push down all square buttons with a symbol in the group.
- Stage 2: Push down all square buttons either with a symbol in the group, or with the same symbol as the round button.
- Stage 4: Push down all square buttons either with a symbol in the group, or with the same colour as the round button.
- Stage 6: Push down all square buttons either with a symbol in the group, or with the same colour as the 1st wire.
- Stage 7: Push down all square buttons either with a symbol in the group, or with the same colour as the 3rd wire.
- Stage 8: Push down all square buttons WITHOUT a symbol in the group.

A spinner above the cube makes one triangle green for each stage you complete.