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CS

# On the Subject of Encrypted Equations

The module everyone hated the moment they saw what an "equation" looked like.

- This module contains a 12-button keypad, a large display containing an equation, and a clear and submit button above it.
- The equation has been encrypted in a way where shapes, letters, and symbols represent numbers and operations.
- Decrypt the equation, then solve it, rounding to the nearest thousandth if necessary.

# Section 1: Shapes

- Every shape translates to a number value.
- This is the starting value for determining what the value actually is.

| Shape | Value | Shape      | Value | Shape    | Value      | Shape         | Value |
|-------|-------|------------|-------|----------|------------|---------------|-------|
| Δ     | 0     | 0          | G1    | #        | 10         | $\Diamond$    | 35    |
|       | 1     | 0          | 6     | +        | <b>1</b> 5 |               | 40    |
|       | 2     |            | 7     | 0        | 20         | 众             | 45    |
| X     | 3     | $\Diamond$ | 8     |          | 25         | $\Rightarrow$ | 50    |
|       | 4     | $\Diamond$ | 9     | $\nabla$ | 30         |               | 100   |

### Section 2: Letters/Symbols

- There will be a letter or symbol inside the shape.
- The letter/symbol translates to an operation and another value.
- Apply this to the value obtained from the shape.
- Important: Round to the nearest thousandth after calculating.

| L/S | Value      | L/S | Value        | L/S | Value       | L/S            | Value      |
|-----|------------|-----|--------------|-----|-------------|----------------|------------|
| A   | +1         | F   | ÷2           | #   | +5          | %              | +10        |
| В   | +3         | G   | +2           | Н   | <b>x</b> 3  | R              | <b>-</b> 5 |
| C   | -2         | П   | <b>x1.</b> 5 | 0   | -1          | tunes<br>tunes | +4         |
| D   | -4         | S   | ÷1.5         | ?   | <b>x</b> 10 | /              | <b>x</b> 4 |
| E   | <b>x</b> 2 | N   | -6           | K   | ÷5          | \              | ÷10        |

### Section 3: Surrounding Symbols

- · A symbol may surround the shape.
- This translates to another operation and value.
- Find the intersection between the symbol, and the compass direction the symbol is located in, on the table on the next page.
- No symbol = Skip this section.
- Apply this to the current value.
- Important: Round to the nearest thousandth after calculating.
- Also important: This is the final value unless something in Sect. 6 applies.
- Pictures of the symbols appear as if they are on the top of the symbol (North).
- Symbols are rotation—locked. Example: A horizontal line on the top of the symbol and a vertical line on the side of a symbol are both on the second row. A vertical line on the top of the symbol and a horizontal line on the side of a symbol are both on the third row.

|  | North        | East | South      | West       |
|--|--------------|------|------------|------------|
| •                                      | +1.          | -2   | <b>x</b> 3 | +3         |
| ************************************** | <b>x1.</b> 5 | ÷5   | -1         | ÷1.5       |
|  | -4           | +2   | <b>x</b> 2 | <b>x</b> 5 |
| 0                                      | +4           | ÷10  | ÷2         | -3         |

## Section 4: Operations

- The operations between numbers are encrypted as well.
- The circle next to each is for location reference.

| + | Oı                  | $\overline{0}$        | $\circ$ | ر<br>(         |
|---|---------------------|-----------------------|---------|----------------|
| ı | Οı                  | $\overline{\bigcirc}$ | 0%      | ٥              |
| x | OI                  | O-                    | Oo      | Or             |
| ÷ | 01                  | 0_                    | 00      | Or             |
| + | $\bigcirc$ $\vdash$ | <b>O</b> +            | O       | Οι             |
| 1 | $\bigcirc$ $\top$   | <b>O</b> #            | OH      | Οl             |
| x | $\bigcirc$ $\dashv$ | <b>O</b> #            | 0       | 0              |
| • | От                  | <b>+</b>              | 0       | O <sub>2</sub> |

#### Section 5: Parentheses

- The parentheses encrypted just like everything else.
- Their appearance dictates their location.

| Current Pair | Opposite Pair | Current Pair | Opposite Pair |  |
|--------------|---------------|--------------|---------------|--|
|              | 7             | ) (          | ( )           |  |
|              |               |              |               |  |
|              |               | Г Л<br>Г Л   |               |  |

#### Section 6: Other

- An "I" in the top-right corner of the shape symbolizes that the final value must be inverted (multiplied by -1).
- An "A" in the top-right corner of the shape symbolizes that the final value must be the absolute value of the current value.
- An "S" in the top-right corner of the shape symbolizes that the final value must be squared.
- A "C" in the top-right corner of the shape symbolizes that the final value must be cubed.
- Important: Round to the nearest thousandth after calculating.

### Section 7: Solving

- Round to the nearest thousandth after:
  - Calculating a shape/letter/symbol combination.
  - o Finding the total of the pair inside the parentheses.
  - o Calculating the final total.
- Type the final answer into the display using the 12-button keypad.
- When inputting, the display will change from the equation to your current input.
- Press the clear button ("C" button) to erase your current input and switch back to the equation.
- Press the submit button ("S" button) once you finish inputting your solution.
- Submitting a wrong solution will result in strikes.
- If, by any chance, the answer is undefined, simply hit submit without entering anything.