

# Companion Cube Calculator User Study

## Instructions

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This user study will be informally gauging the Companion Cube Calculator ( $C^3$ )'s ease of use. This is a mathematical tool for determining the range of a user-specified function given the domains of the function's variables. The calculations are performed using interval arithmetic.

This study contains two tasks and a questionnaire. It should take you no longer than 10 minutes in total to complete.

The questionnaire can be accessed at:

### Task 1

Enter the following information directly into the tool and report the results:

$$\frac{2(x+y)^2}{3^z}$$

where

$$x = [1, 2], y = [3, 4], z = [5, 6]$$

### Task 2

Enter the following information into the tool as a file and report the results:

$$\frac{2(x+y)^2}{3^z}$$

where

$$x = [1, 2], y = [3, 4], z = [5, 6]$$