

## CARGO BAY

### Story

The pods now have the power needed to eject, but another code must be entered to release them. Your crewmate in charge of the pods remembers scraping the 3-letter code into the wall of the cargo bay across from the pods because she never could quite remember the sequence. You pull out your flashlight to see the wall better, but you find multiple new initials have been carved into the wall during the months in space.

Luckily, your friend strategically wrote the code letters in certain places on the wall. She used three pods' electrical output readings to place each letter at a unique point on the wall's grid. If you can compute the electrical output for the pods, you should be able to release them and escape. You sense you will have to hurry, as you are now floating slightly off the floor and the air feels thin. If you don't get this figured out soon, it may be too late for all of you.

### Directions

Step into the cargo bay by going to <https://www.geogebra.org/m/whtn2brj> and use the flashlight to get the 3-letter code.

**The answer to question 1 will give you the first letter of the code. The answer to question 2 will give you the second letter, and the answer to question 3 will give you the final letter.**

Each answer will be in the form of  $a + bi$ . Type the values of  $a$  and  $b$  in the corresponding blue input boxes. Press enter and watch the flashlight move to reveal the hidden letter.

1) Simplify:  $(1 - 6i) + (-3 + 5i) + (4 - 2i)$

2) Simplify:  $i + (2 - 3i) - (5 - 2i)$

3) Simplify:  $(i^3 - i)(2i^4 + i)$

Release Code		
First Letter	Second Letter	Third Letter

Once you have the code written in the table above, go to your teacher to check and confirm it.