UNIVERSITY OF WISCONSIN
PLATTEVILLE
DEPARTMENT OF MATHEMATICS

Problem of the Week #2

(Spring 2021)

Suppose that a, b, and c are positive integers with

$$c = (a + bi)^3 - 107i$$

(where as usual $i^2 = -1$). Find c.

[Please fully explain your answer.]

Email your solution to `kwonmi@uwplatt.edu` by 4:00pm on Wednesday, February 10, 2021.

Every week, the best solution submitted earns a $10 Platteville gift certificate; the top scorer each semester also wins a cash award. Good luck!
You can always see the Problem of the Week (and complete rules) online at:

`http://uwpmath.weebly.com/`