



# BC Math Challenge

Broward College



**Rules:** You must be a Broward College student, currently enrolled in at least one class.

Each student may submit only one solution to one campus per question. You may not submit a solution to more than one campus. Please submit a PDF of your solution to one of the email addresses below or turn your paper in to the math department on your campus. If your file is not a PDF, your submission may not be graded.

**Prizes for each Challenge Question:** For each Math Challenge Question, each campus will randomly select one winner from the acceptable correct solutions. Acceptable correct solutions must have the correct answer and show appropriate work or reasoning to be eligible to win a prize.

**Grand Prize for each Semester:** For each acceptable correct solution during the semester, the student will receive one entry into the Grand Prize drawing for a TI-84CE graphing calculator! One calculator will be awarded per campus.

**Submit your solution to the ONE campus that best describes your Math class or class schedule:**

Central Campus:	Bldg. 7, 2 <sup>nd</sup> Floor	Contact: Prof. Carl, <a href="mailto:jcarl@broward.edu">jcarl@broward.edu</a>
North Campus:	Bldg. 57, Room 101	Contact: Prof. Brooks, <a href="mailto:jbrooks@broward.edu">jbrooks@broward.edu</a>
South Campus:	Bldg. 69, 2 <sup>nd</sup> Floor	Contact: Prof. Muniz-Alvarez, <a href="mailto:lmunizal@broward.edu">lmunizal@broward.edu</a>
Online Campus:	Bldg. 57, Room 101	Contact: Prof. Brooks, <a href="mailto:jbrooks@broward.edu">jbrooks@broward.edu</a>

Deadline: **Friday, April 12, 2024 by 5:00 pm (Late submissions will not be accepted)**

Print Your Name: \_\_\_\_\_ Student ID: \_\_\_\_\_

Current Math Instructor (if any): \_\_\_\_\_ Campus Submitted: \_\_\_\_\_

BC Email: \_\_\_\_\_@mail.broward.edu

**Answer the following question.**

Find three integer values of  $x$  such that  $4^x + 4^{2021} + 4^{2024}$

is a perfect square (the square of an integer).

For your answer, you must list exactly three integers.

**Remember: Your solution must show appropriate work or reasoning.**

**You may work on the back of this page or attach additional pages if more space is needed.**