



# 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. Hearn, <a href="mailto:qhearn@broward.edu">qhearn@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 4, 2025 by 5:00 pm (Late submissions will not be accepted)**

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

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

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

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

### Answer the following question.

A supersonic airplane flies at a constant speed and a constant altitude. The airplane flies directly over you at noon. The sound wave emitted by the airplane at noon reaches you 15 seconds after noon. You first hear the airplane 12 seconds after noon. The first sound wave that you hear is emitted by the airplane 6.75 seconds before noon. Assume that the speed of sound is constant. How many times faster than the speed of sound is the airplane flying? (Your answer must be exact.)

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