Type equation here. **BC Math Challenge**

Broward College

Eligibility: You must be a Broward College student, currently enrolled in at least one class.
Prizes: For each Math Challenge Contest, each campus will 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. For each acceptable correct solution, the student will receive one entry into the Grand Prize drawing for a TI-84CE graphing calculator! One calculator will be awarded per campus.
Additional Rules: Each student may submit only one solution per contest. 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.

For Central Campus Submission:	Bldg. 7, 2nd Floor	Contact: Prof. Geraci, sgeraci@broward.edu
For North Campus Submission:	Bldg. 57, Room 101	Contact: Prof. Brooks, jbrooks@broward.edu
For South Campus Submission:	Bldg. 69, 2nd Floor	Contact: Prof. Muniz-Alvarez, lmunizal@broward.edu
For Online Campus Submission:	Bldg. 57, Room 101	Contact: Prof. Brooks, jbrooks@broward.edu

Deadline: **Friday, December 1, 2023 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 Class (if any): _____ Campus Submitted: _____

BC Email: _____@mail.broward.edu

Answer the following question.

Let $g(x)$ be the piecewise function defined as:

$$g(x) = \begin{cases} \dfrac{2}{x+1} & \text{if} \quad x < -2 \\ -\dfrac{4}{x} & \text{if} \quad -2 \le x < 0 \\ 0 & \text{if} \quad x = 0 \\ 1 - \dfrac{6}{x} & \text{if} \quad 0 < x \le 2 \\ \dfrac{12}{x+4} & \text{if} \quad x > 2 \end{cases}$$

Let $f(x)$ be a function with the property that, for all rational numbers x,

$$(2x-8)f(x) + f\big(g(x)\big) = x - 2.$$

Find $f(-3)$.

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