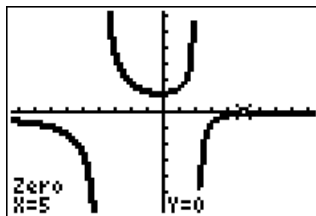


Algebra 2, Module 7, Lesson 4 – Solving Rational Inequalities Using Tables and Graphs

2. What is the solution to the inequality $\frac{3}{x+4} - \frac{1}{x-2} \leq 0$?

A. $x < -4$ or $2 < x \leq 5$

Correct. Here is a graph of the left side of the inequality



You can clearly tell from the graph of the left side of the inequality that the expression is less than 0 when $x < -4$, and when $x > 2$. The calculator can also be used to find a zero at $x = 5$, where the graph changes from negative to positive. Therefore, the graph is less than zero when $x < -4$ or $2 < x \leq 5$.

B. $-4 < x < 2$ or $x \geq 5$

Incorrect. You solved for when the expression on the left is greater than or equal to 0.

C. $x < -4$ or $2 < x < 5$

Incorrect. While this solution is almost correct, $x = 5$ needs to be included in the solution since it makes the rational expression on the left equal to 0.

D. $x < -4$ or $0 \leq x < 2$

Incorrect. Check the left side of the inequality.