Mathematical Analysis

Serob Tigranyan

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Contents

1 Analsys of the function

We're given the function:

$$f(x) = \frac{x^2 + 3x - 1}{3 - 2x}$$

And we need to analyse and graph the function by following the steps below:

1. Domain of the Function
2. Limit at the Domain's Edges
3. Interceptions at X and Y axies
4. Monotonic Intervals
5. Critical Points and Local Extrema
6. Function values at Extrema
7. Concavity and Inflection Points
8. Asymptotes
9. Graphing the Function

2 Domain of the function

Since we have fractional function, the domain of the function is all real numbers except when the denominator is zero:

$$3 - 2x \neq 0 \rightarrow x \neq \frac{3}{2}$$