

Q1. Use limits to determine whether or not $x = 1$ is a vertical asymptote of $(x) = \frac{x^2 - 2x + 1}{2x^2 + 2x - 4}$.

Q2.

Let $f(x) = \sqrt{1 + \sqrt{x}}$. Use the definition of derivative to find $f'(x_0)$.

Q.No.3:- Use the limits to find all horizontal asymptotes to the curve of the function:

$$f(x) = \sqrt{4x^2 + 2x} - \sqrt{4x^2 + 5x}$$