

Domain
Range

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

$$g(x) = \frac{1}{x^2 + 1}$$

Use the intermediate value theorem to prove that the equation $3x^5 - 4x^2 = 3$ is solvable on the interval $[0, 2]$

Find the equation of the tangent line at $P(8, 3)$ for the following graph $y = \sqrt{x+1}$

Find equation of all lines having slope -1 that are tangent to the curve $y = \frac{1}{x-1}$

let $f(x) = x^2 + 2x$ at $x_0 = 1$ & $dx = 0.1$

- ① Find Δf
- ② Find the differential ~~of~~ df
- ③ Error $|\Delta f - df|$

Asymptote: Find the Horizontal, Oblique, Vertical Asymptote

of the following function:-

$$[1] \quad f(x) = \frac{x-1}{x(x+2)}$$

$$[2] \quad f(x) = \frac{x-1}{(x-1)(x+6)}$$

$$[3] \quad f(x) = \frac{x^2-25}{x-5}$$

$$[4] \quad f(x) = \frac{x^2}{x^2-1}$$