03/20/20 ZOOM LECTURE 3

Slant Asymptotes

Given $f(x) = \frac{N(x)}{D(x)}$

If the Degree of $N(x)$ is greater than the Degree of $D(x)$ by 1, then the graph of $f(x)$ has an slant asymptote and it can be found via Division of polynomials.

Example:

Find the slant Asymptote

(2) → Degree

Of $f(x) = \dfrac{x^2 - x + 3}{x + 1}$ → Degree?

Solution

Since $2 > 1$ by 1

then there is an slant asymptote

opposite.

	1	−1	3
−1		−1	2
	1	−2	5

$$x - 2 + \frac{5}{x+1}$$

Then slant Asymptote is:

$$y = x - 2$$