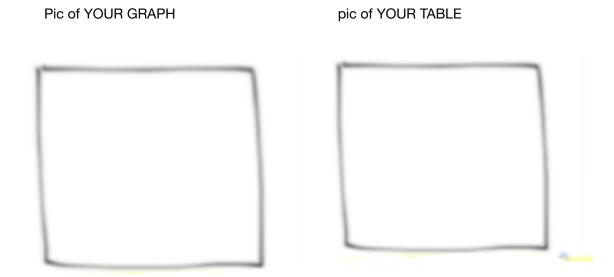
To find vertical asymptotes of a rational function

- 1)
- 2)

USE THE TABLE FEATURE TO VERIFY (There should be an "ERROR" as the y-value)

Ex) Find the vertical asymptotes of
$$f(x) = \frac{x^2 - 3x - 4}{x^2 - 4}$$

YOUR WORK



Finding horizontal asymptotes

RATIONAL FUNCTIONS CAN ALSO SOMETIMES HAVE HORIZONTAL ASYMPTOTES.

To find horizontal asymptotes

- 1) Call the _____ of the numerator n.
- 2) Call the _____ of the denominator d.

Compare n and d.

Case 1

- a) If n < d, _____
- Ex) $h(x) = \frac{3x}{x^2 5x 6}$

YOUR WORK

Pic of YOUR GRAPH



Finding horizontal asymptotes

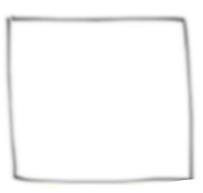
Case # 2

is the equation of the horizontal asymptote.

Ex)
$$F(x) = \frac{6x - 12}{2x + 5}$$

YOUR WORK

Pic of YOUR GRAPH



Finding horizontal asymptotes:

Case # 3

Ex)
$$g(x) = \frac{x^2 - 1}{2x + 4}$$

YOUR WORK

Pic of YOUR GRAPH

