

Oblique Asymptote: • Occurs when there isn't a horizontal asymptote.  
(slant)

- degree numerator > degree denominator
- Find by dividing

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

$$\begin{array}{r} x+4 \\ x-1 \overline{) x^2 + 3x + 2} \\ \underline{-(x^2 - x)} \phantom{+ 2} \\ 4x + 2 \\ \underline{-(4x - 4)} \\ 6 \end{array}$$

Oblique (Slant) Asym:

$$y = x + 4$$

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

Domain:  $(-\infty, -1) \cup (-1, +\infty)$

VA:  $x = -1$

HA: None

SA:  $y = x - 1$

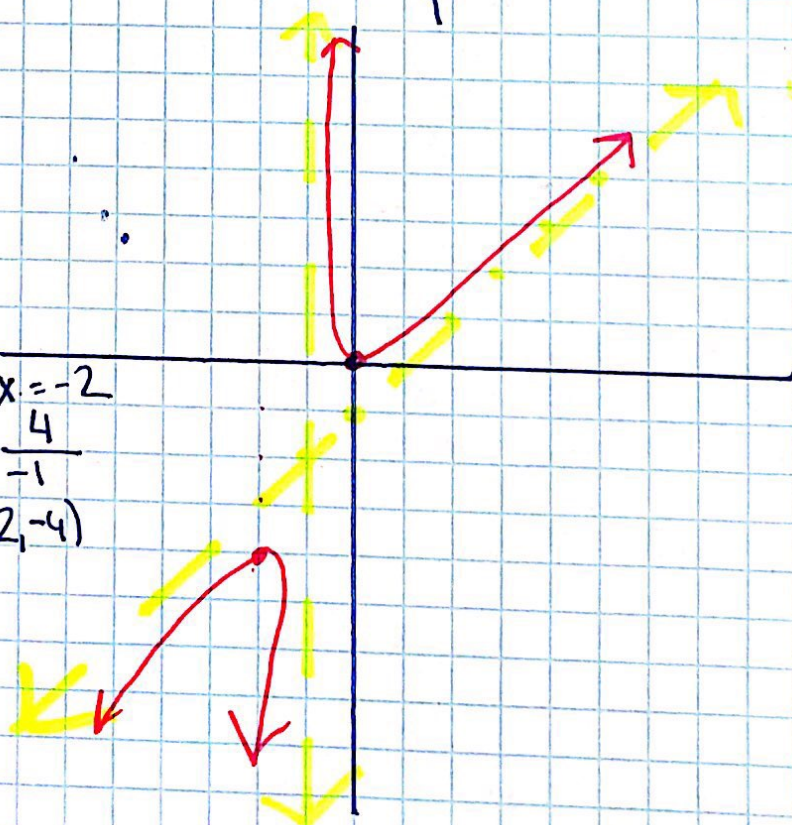
x-int:  $(0, 0)$

y-int:  $(0, 0)$

Holes: None

$$\begin{array}{r} x-1 \\ x+1 \overline{) x^2 + 0x + 0} \\ \underline{-(x^2 + x)} \\ -x + 0 \\ \underline{-(-x - 1)} \\ 1 \end{array}$$

$$\begin{array}{r} x = -2 \\ \frac{4}{-1} \\ (-2, -4) \end{array}$$



x-int:

$$0 = \frac{x^2}{x+1}$$

$$x = 0$$