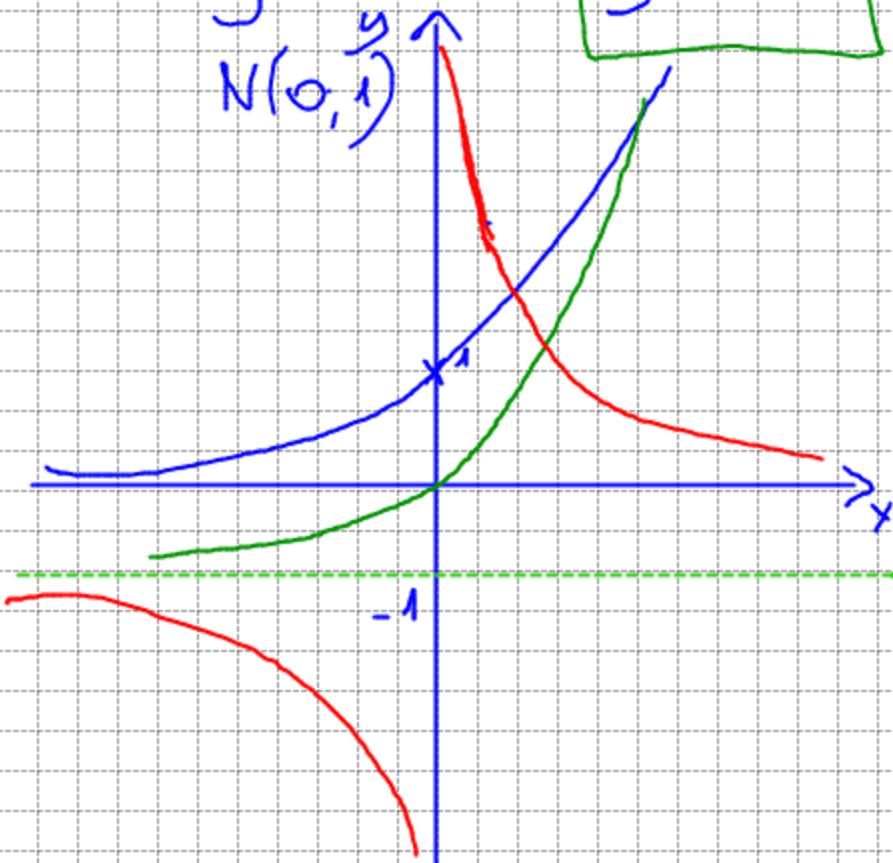


$$y = \frac{1}{3^x - 1}$$

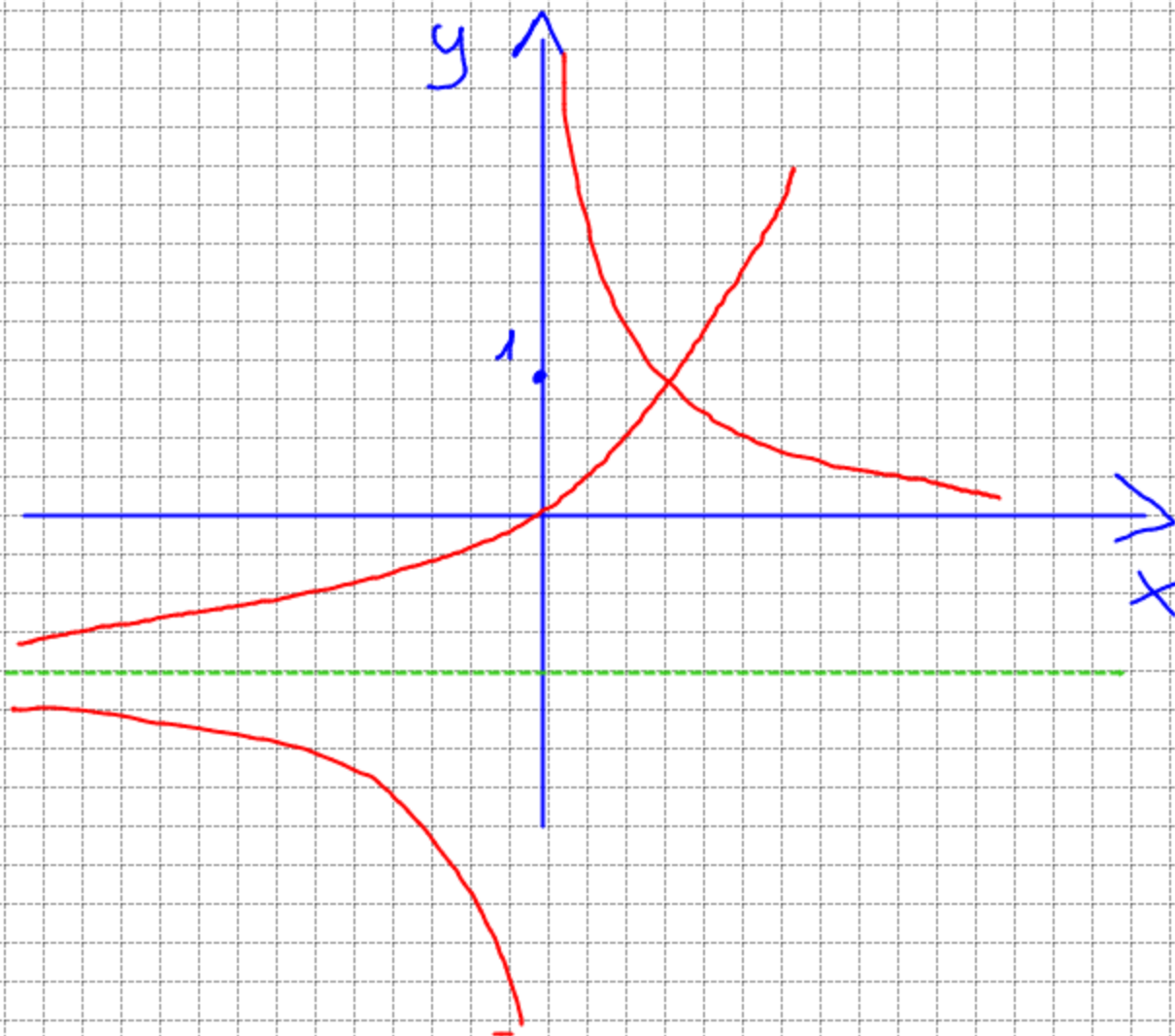
$y = 3^x \xrightarrow{xT: (0, -1)}$ 
 $y = 3^x - 1$ 
 $\rightarrow$ 
 $y = \frac{1}{3^x - 1}$



$x$	<span style="border: 1px solid blue; padding: 2px;"><math>3^x</math></span>	<span style="border: 1px solid green; padding: 2px;"><math>3^x - 1</math></span>	<span style="border: 1px solid red; padding: 2px;"><math>\frac{1}{3^x - 1}</math></span>	
$-\infty$	$0^+$	$-1^+$	$-1^-$	$\frac{1}{0^-} = -\infty$
$\nearrow$	$\nearrow$	$\nearrow$	$\searrow$	
$0^-$	$1^-$	$0^-$	$-\infty$	
$0^+$	$1^+$	$0^+$	$+\infty$	
$\nearrow$	$\nearrow$	$\nearrow$	$\searrow$	se $y=0$ $y = \frac{1}{3^x - 1}$ $0 = \frac{1}{3^x - 1}$
$+\infty$	$+\infty$	$+\infty$	$0^+$	

$y = x^2 - 2x + 1$       $y = \frac{1}{x^2 - 2x + 1}$

$y = (x+1)(x-3)$       $y = \frac{1}{(x+1)(x-3)}$



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$$a \in \mathbb{R}$$

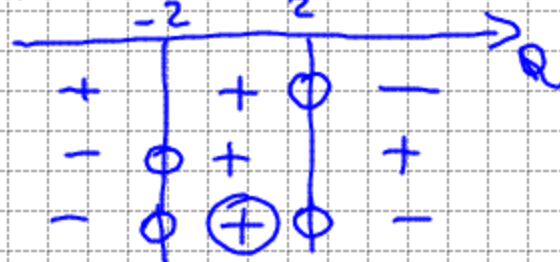
$$y = \left( \frac{2-a}{a+2} \right)^x$$

$$0 < \frac{2-a}{a+2} < 1$$

$$\begin{cases} \frac{2-a}{a+2} > 0 \\ \frac{2-a}{a+2} < 1 \end{cases}$$

$$2-a > 0 \quad a < 2$$

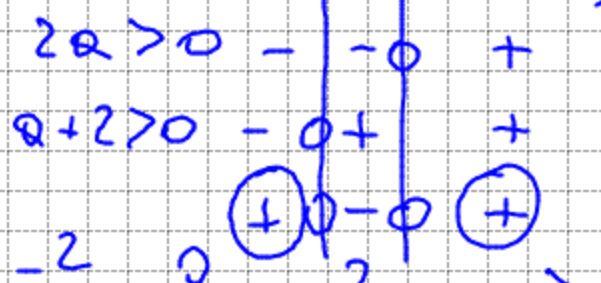
$$a+2 > 0 \quad a > -2$$



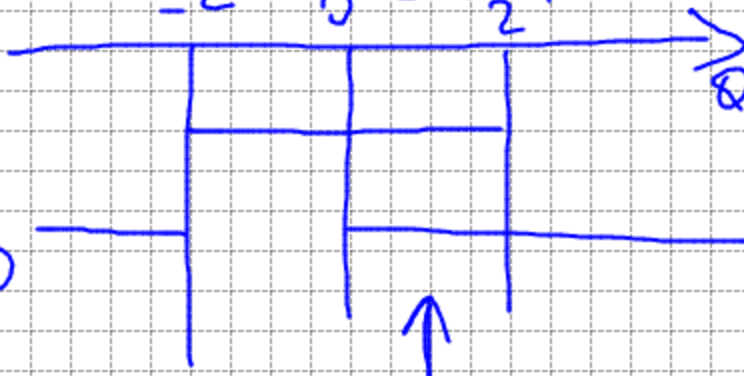
$$\begin{cases} -2 < a < 2 \\ \frac{2-a-a-2}{a+2} < 0 \end{cases}$$

$$\begin{cases} -2 < a < 2 \\ \frac{-2a}{a+2} < 0 \end{cases}$$

$$\begin{cases} \frac{2a}{a+2} > 0 \\ -2 < a < 2 \end{cases} \rightarrow$$



$$\begin{cases} -2 < a < 2 \\ a < -2 \cup a > 0 \end{cases}$$



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$$2^{x+2} - 2^{x-1} - 2^{x-2} = 26$$

$$2^x \cdot 2^2 - 2^x \cdot 2^{-1} - 2^x \cdot 2^{-2} = 2 \cdot 13$$

$$2^x \left( 4 - \frac{1}{2} - \frac{1}{4} \right) = 2 \times 13$$

$$2^x \left( \frac{16 - 2 - 1}{4} \right) = 2 \times 13 \quad 2^x = \frac{2 \times 13 \times 4}{13}$$

$$2^x = 2^3 \quad x = 3$$

$$\begin{array}{r|l} 26 & 2 \\ 13 & 13 \\ 1 & \end{array}$$

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$$-\frac{3}{2} = -3 \frac{1}{2}$$

$$4^{2x-1} - 4^{2x+1} + 3(2^{4x}) = -\frac{3}{2}$$

$$\frac{(2x-1)^2}{2} - \frac{2(2x+1)}{2} + 3 \cdot 2^{4x} = -3 \cdot 2^{-1}$$

$$\frac{4x-2}{2} \cdot \frac{4x-2}{2} - \frac{4x+2}{2} + 2^{4x} \cdot 3 = -3(2^{-1})$$

$$2^{4x} \left( \frac{1}{4} - 4 + 3 \right) = -3(2^{-1})$$

$$2^{4x} \left( \frac{1-4}{4} \right) = -3(2^{-1})$$

$$2^{4x} = \frac{2}{2} \cdot \frac{4}{(-3)} \quad 2^{4x} = 2^1 \quad 4x = 1 \quad x = \frac{1}{4}$$