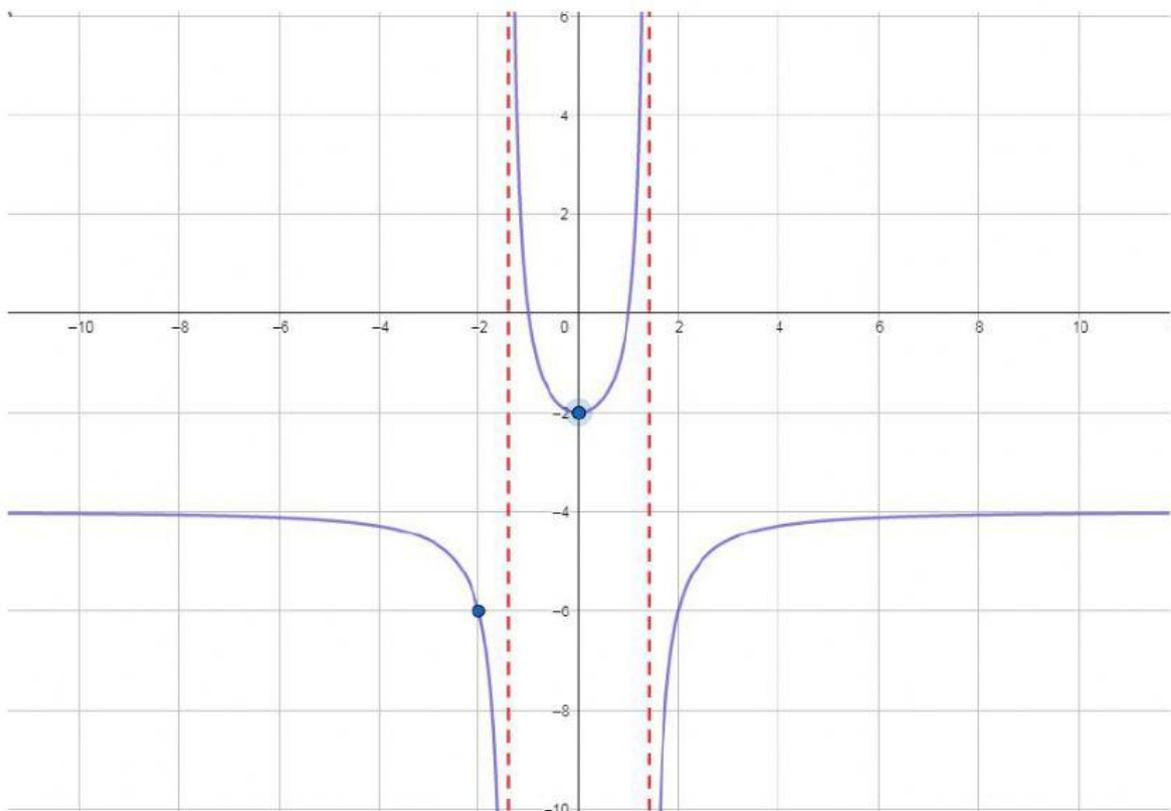


## UNIDAD 7

### LÍMITES Y CONTINUIDAD

#### LÍMITES EN EL INFINITO. Ejercicios

1.- Arrastra sobre la imagen el límite adecuado:



$$\lim_{x \rightarrow +\infty} f(x) = -4$$

$$\lim_{x \rightarrow -\infty} f(x) = -4$$

$$\lim_{x \rightarrow +\sqrt{2}^+} f(x) = -\infty$$

$$\lim_{x \rightarrow +\sqrt{2}^+} f(x) = +\infty$$

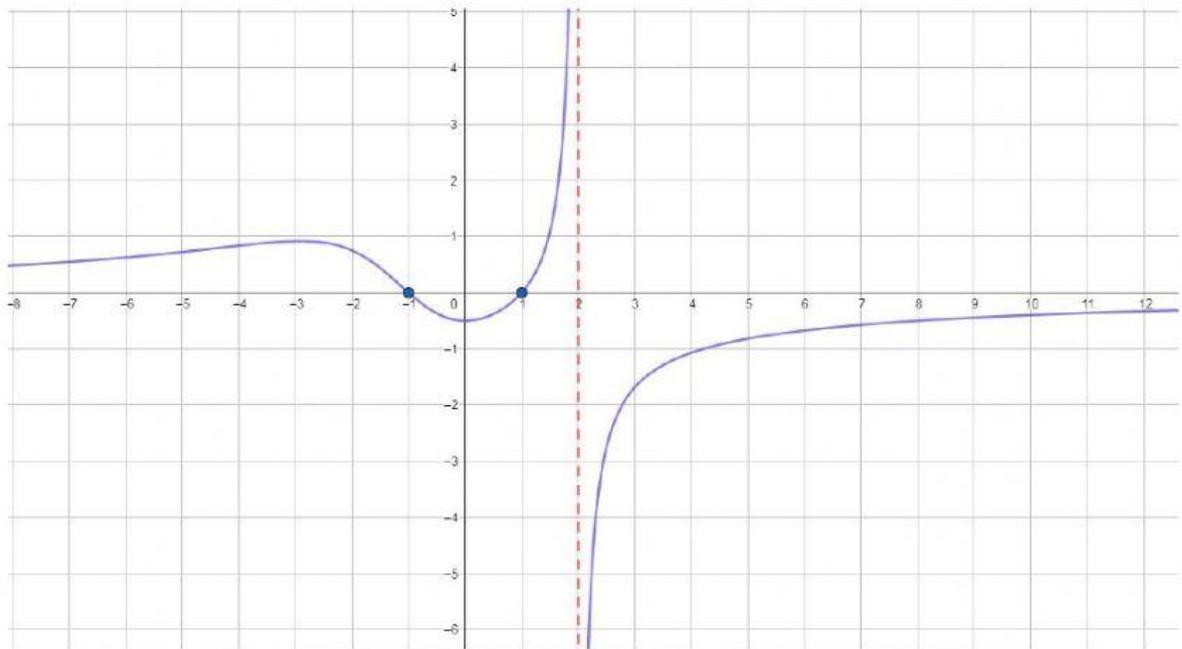
$$\lim_{x \rightarrow -\sqrt{2}^+} f(x) = +\infty$$

$$\lim_{x \rightarrow -\sqrt{2}^+} f(x) = -\infty$$

$$\lim_{x \rightarrow 0} f(x) = -2$$

$$\lim_{x \rightarrow -2} f(x) = -6$$

2.- Arrastra sobre la imagen el límite adecuado:



$$\lim_{x \rightarrow +\infty} f(x) = 0$$

$$\lim_{x \rightarrow 2^{da}} f(x) = -\infty$$

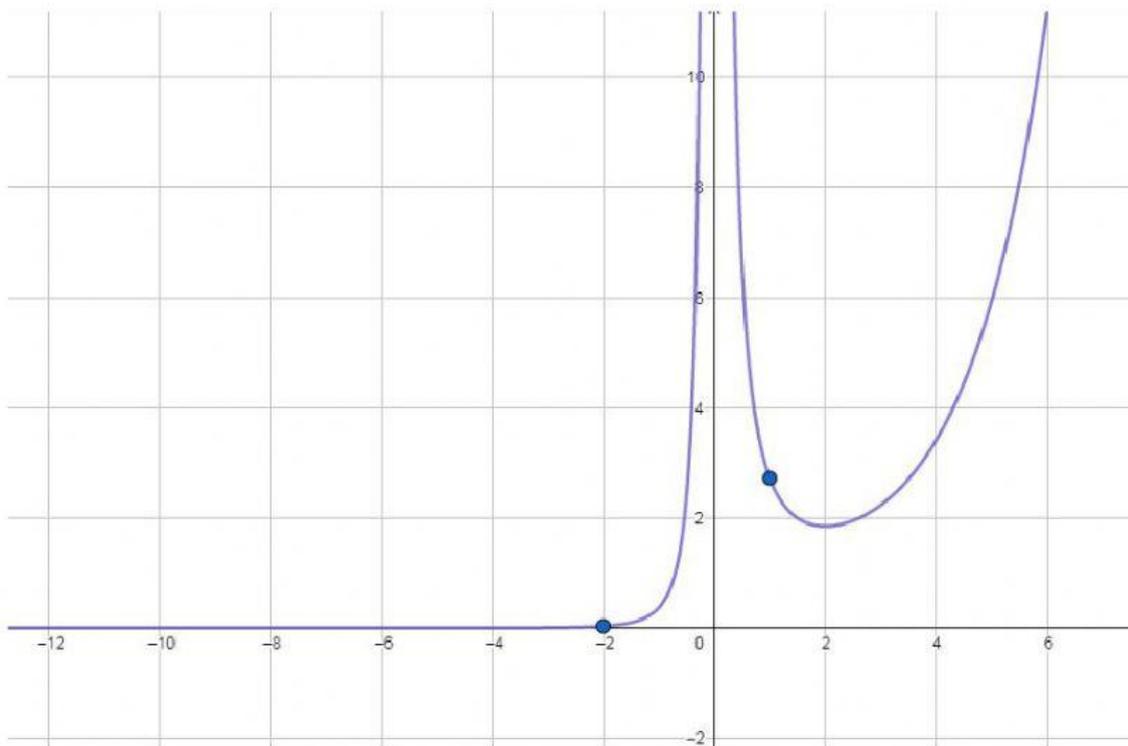
$$\lim_{x \rightarrow -1} f(x) = 0$$

$$\lim_{x \rightarrow -\infty} f(x) = 0$$

$$\lim_{x \rightarrow 2^{izq}} f(x) = +\infty$$

$$\lim_{x \rightarrow 1} f(x) = 0$$

3.- Arrastra sobre la imagen el límite adecuado:



$$\lim_{x \rightarrow +\infty} f(x) = +\infty$$

$$\lim_{x \rightarrow 0^{\text{dcha}}} f(x) = +\infty$$

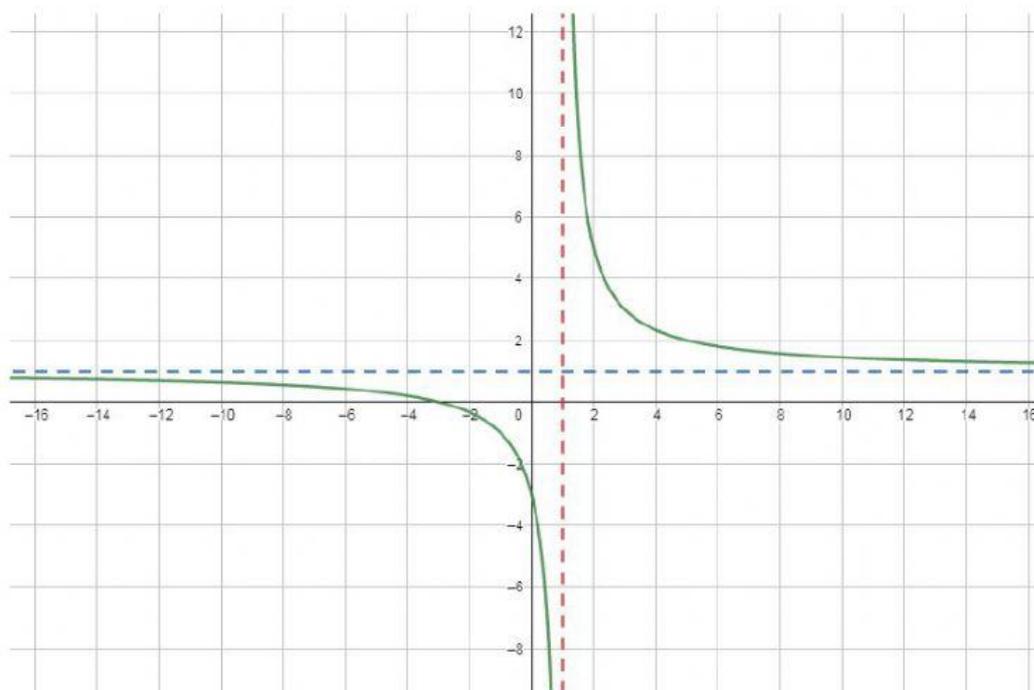
$$\lim_{x \rightarrow -1} f(x) = e$$

$$\lim_{x \rightarrow -\infty} f(x) = 0$$

$$\lim_{x \rightarrow 0^{\text{izq}}} f(x) = +\infty$$

$$\lim_{x \rightarrow -2} f(x) = 0,0338$$

4.- Calcula los siguientes límites observando la gráfica:



$$\lim_{x \rightarrow 1^{\text{izq}}} f(x)$$

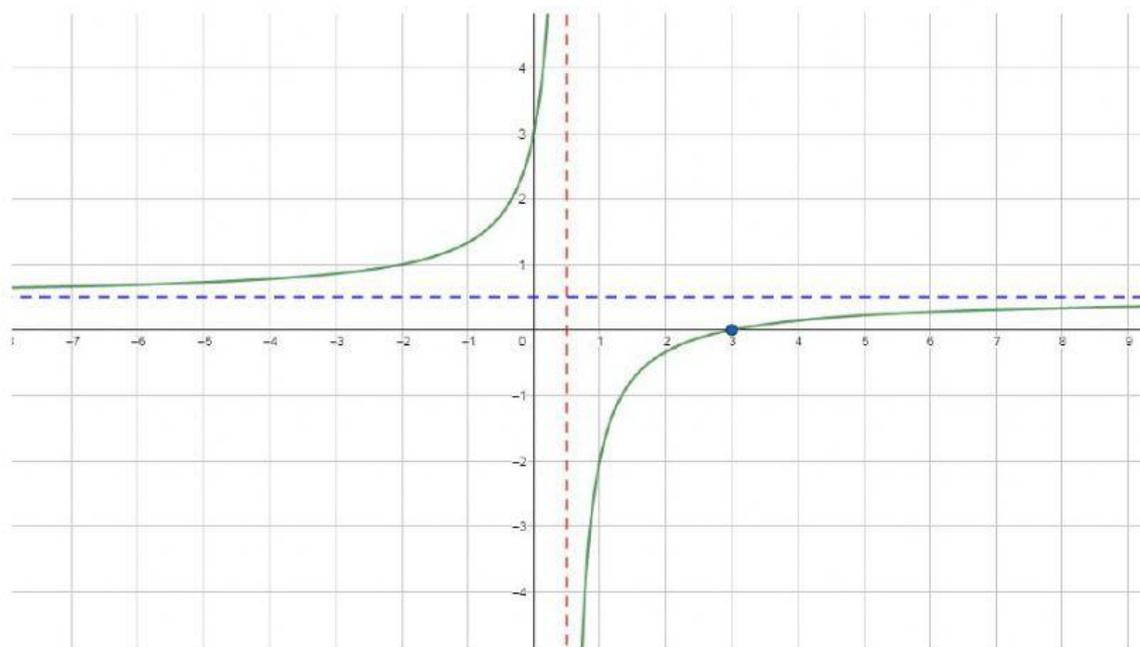
$$\lim_{x \rightarrow 1^{\text{dcha}}} f(x)$$

$$\lim_{x \rightarrow +\infty} f(x)$$

$$\lim_{x \rightarrow -\infty} f(x)$$

|   |           |   |           |
|---|-----------|---|-----------|
| 1 | $+\infty$ | 1 | $-\infty$ |
|---|-----------|---|-----------|

5.- Calcula los siguientes límites observando la gráfica:



$$\lim_{x \rightarrow 1^-} f(x)$$

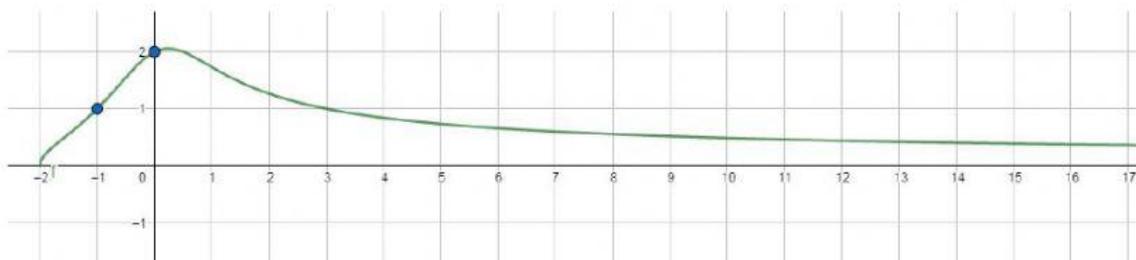
$$\lim_{x \rightarrow 1^+} f(x)$$

$$\lim_{x \rightarrow +\infty} f(x)$$

$$\lim_{x \rightarrow 3} f(x)$$

|     |           |   |           |
|-----|-----------|---|-----------|
| 0,5 | $+\infty$ | 0 | $-\infty$ |
|-----|-----------|---|-----------|

6.- Calcula los siguientes límites observando la gráfica:



$$\lim_{x \rightarrow +\infty} f(x)$$

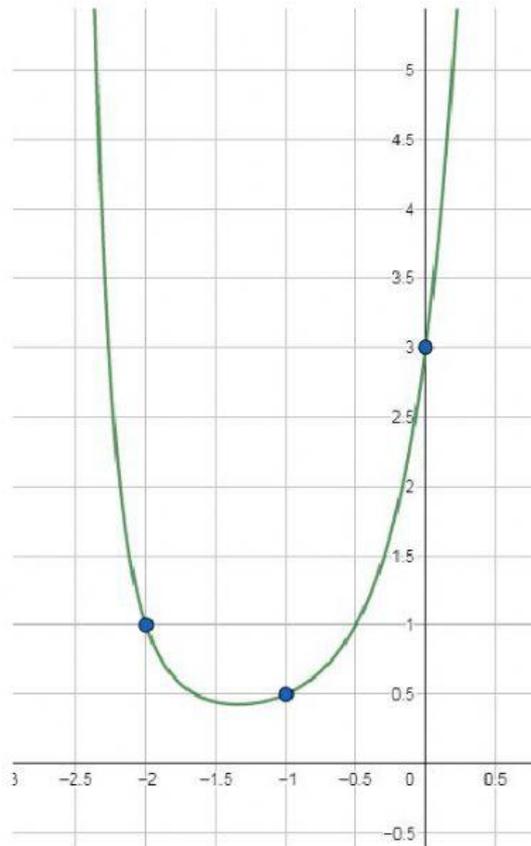
$$\lim_{x \rightarrow -\infty} f(x)$$

$$\lim_{x \rightarrow -1} f(x)$$

$$\lim_{x \rightarrow 0} f(x)$$

|              |   |   |   |
|--------------|---|---|---|
| No<br>existe | 2 | 0 | 1 |
|--------------|---|---|---|

7.- Calcula los siguientes límites observando la gráfica



$$\lim_{x \rightarrow -2} f(x)$$

$$\lim_{x \rightarrow -\infty} f(x)$$

$$\lim_{x \rightarrow -1} f(x)$$

$$\lim_{x \rightarrow 0} f(x)$$

|   |     |           |   |
|---|-----|-----------|---|
| 3 | 0,5 | $+\infty$ | 1 |
|---|-----|-----------|---|

7.- Relaciona cada límite con su valor( deberás hacer los cálculos) :

$$\lim_{x \rightarrow 2} \frac{x+3}{x-1}$$

$$\lim_{x \rightarrow 3} \frac{x-3}{2x-1}$$

$$\lim_{x \rightarrow 0} \sqrt{\frac{2x+4}{x^2+1}}$$

$$\lim_{x \rightarrow -1} (x+3)^{(2x+1)}$$

|     |
|-----|
| 0,5 |
| 2   |
| -5  |
| 0   |

8.- Selecciona para cada límite su valor( deberás hacer los cálculos) :

$$\lim_{x \rightarrow +\infty} x^7$$

|                                    |                                    |                            |
|------------------------------------|------------------------------------|----------------------------|
| <input type="checkbox"/> $+\infty$ | <input type="checkbox"/> $-\infty$ | <input type="checkbox"/> 0 |
|------------------------------------|------------------------------------|----------------------------|

$$\lim_{x \rightarrow +\infty} \sqrt{x}$$

|                                    |                                    |                            |
|------------------------------------|------------------------------------|----------------------------|
| <input type="checkbox"/> $+\infty$ | <input type="checkbox"/> $-\infty$ | <input type="checkbox"/> 0 |
|------------------------------------|------------------------------------|----------------------------|

$$\lim_{x \rightarrow -\infty} x^7$$

|                                    |                                    |                            |
|------------------------------------|------------------------------------|----------------------------|
| <input type="checkbox"/> $+\infty$ | <input type="checkbox"/> $-\infty$ | <input type="checkbox"/> 0 |
|------------------------------------|------------------------------------|----------------------------|

$$\lim_{x \rightarrow -\infty} \sqrt{x}$$

|                                    |                                    |                            |
|------------------------------------|------------------------------------|----------------------------|
| <input type="checkbox"/> $+\infty$ | <input type="checkbox"/> $-\infty$ | <input type="checkbox"/> 0 |
|------------------------------------|------------------------------------|----------------------------|

$$\lim_{x \rightarrow +\infty} x^{12}$$

|                                    |                                    |                            |
|------------------------------------|------------------------------------|----------------------------|
| <input type="checkbox"/> $+\infty$ | <input type="checkbox"/> $-\infty$ | <input type="checkbox"/> 0 |
|------------------------------------|------------------------------------|----------------------------|

$$\lim_{x \rightarrow +\infty} \sqrt[3]{x}$$

|                                    |                                    |                            |
|------------------------------------|------------------------------------|----------------------------|
| <input type="checkbox"/> $+\infty$ | <input type="checkbox"/> $-\infty$ | <input type="checkbox"/> 0 |
|------------------------------------|------------------------------------|----------------------------|

$$\lim_{x \rightarrow -\infty} x^{12}$$

|                                    |                                    |                            |
|------------------------------------|------------------------------------|----------------------------|
| <input type="checkbox"/> $+\infty$ | <input type="checkbox"/> $-\infty$ | <input type="checkbox"/> 0 |
|------------------------------------|------------------------------------|----------------------------|

$$\lim_{x \rightarrow -\infty} \sqrt[3]{x}$$

|                                    |                                    |                            |
|------------------------------------|------------------------------------|----------------------------|
| <input type="checkbox"/> $+\infty$ | <input type="checkbox"/> $-\infty$ | <input type="checkbox"/> 0 |
|------------------------------------|------------------------------------|----------------------------|

$$\lim_{x \rightarrow +\infty} 8^x$$

|                                    |                                    |                            |
|------------------------------------|------------------------------------|----------------------------|
| <input type="checkbox"/> $+\infty$ | <input type="checkbox"/> $-\infty$ | <input type="checkbox"/> 0 |
|------------------------------------|------------------------------------|----------------------------|

$$\lim_{x \rightarrow -\infty} 8^x$$

|                                    |                                    |                            |
|------------------------------------|------------------------------------|----------------------------|
| <input type="checkbox"/> $+\infty$ | <input type="checkbox"/> $-\infty$ | <input type="checkbox"/> 0 |
|------------------------------------|------------------------------------|----------------------------|

$$\lim_{x \rightarrow +\infty} \pi^x$$

|                                    |                                    |                            |
|------------------------------------|------------------------------------|----------------------------|
| <input type="checkbox"/> $+\infty$ | <input type="checkbox"/> $-\infty$ | <input type="checkbox"/> 0 |
|------------------------------------|------------------------------------|----------------------------|

$$\lim_{x \rightarrow -\infty} \pi^x$$

|                                    |                                    |                            |
|------------------------------------|------------------------------------|----------------------------|
| <input type="checkbox"/> $+\infty$ | <input type="checkbox"/> $-\infty$ | <input type="checkbox"/> 0 |
|------------------------------------|------------------------------------|----------------------------|

$$\lim_{x \rightarrow +\infty} \left(\frac{1}{5}\right)^x$$

|                                    |                                    |                            |
|------------------------------------|------------------------------------|----------------------------|
| <input type="checkbox"/> $+\infty$ | <input type="checkbox"/> $-\infty$ | <input type="checkbox"/> 0 |
|------------------------------------|------------------------------------|----------------------------|

$$\lim_{x \rightarrow -\infty} \left(\frac{1}{5}\right)^x$$

|                                    |                                    |                            |
|------------------------------------|------------------------------------|----------------------------|
| <input type="checkbox"/> $+\infty$ | <input type="checkbox"/> $-\infty$ | <input type="checkbox"/> 0 |
|------------------------------------|------------------------------------|----------------------------|

$$\lim_{x \rightarrow +\infty} (\sqrt{2})^{-x}$$

|                                    |                                    |                            |
|------------------------------------|------------------------------------|----------------------------|
| <input type="checkbox"/> $+\infty$ | <input type="checkbox"/> $-\infty$ | <input type="checkbox"/> 0 |
|------------------------------------|------------------------------------|----------------------------|

$$\lim_{x \rightarrow -\infty} (\sqrt{2})^{-x}$$

|                                    |                                    |                            |
|------------------------------------|------------------------------------|----------------------------|
| <input type="checkbox"/> $+\infty$ | <input type="checkbox"/> $-\infty$ | <input type="checkbox"/> 0 |
|------------------------------------|------------------------------------|----------------------------|