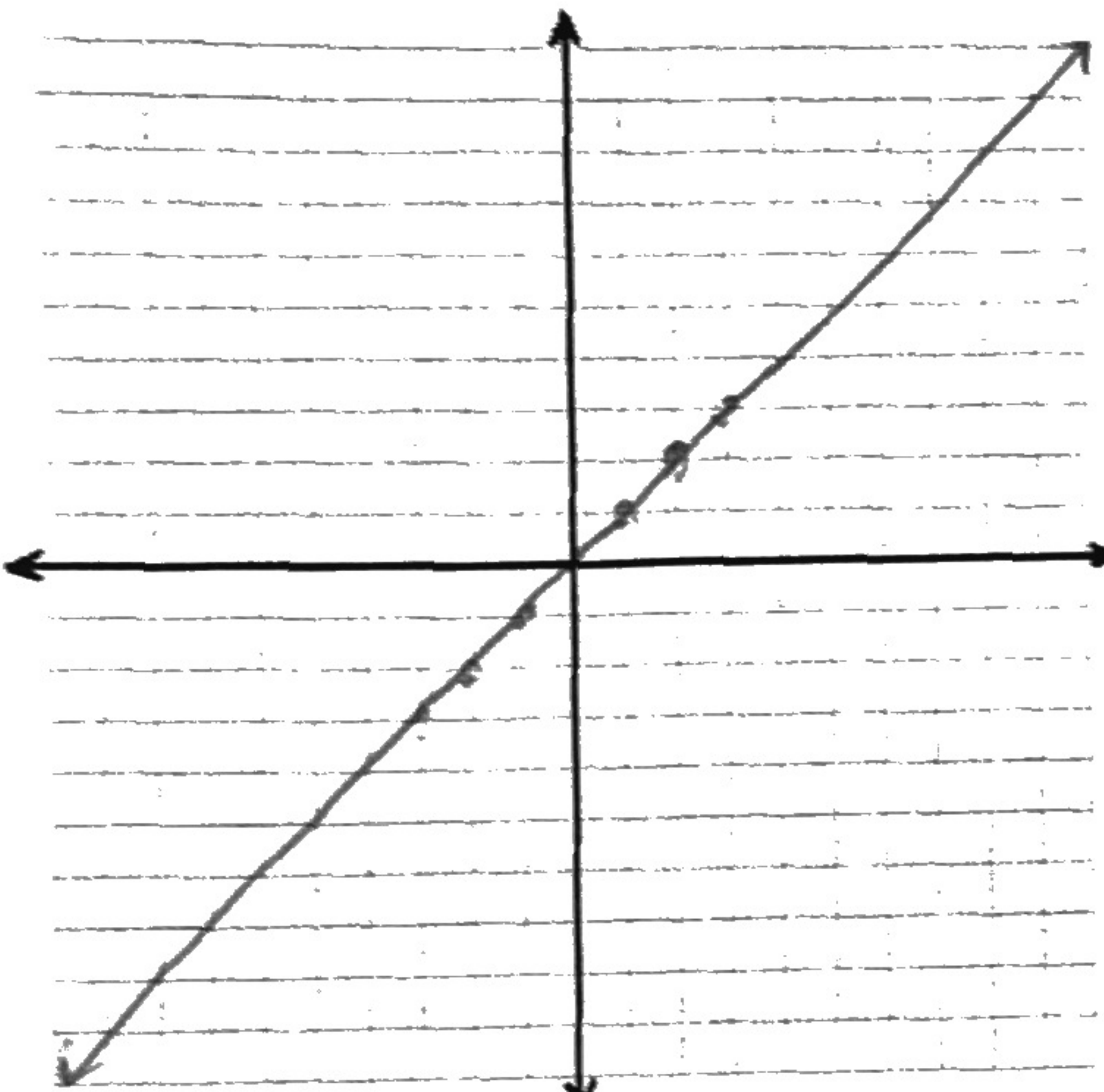
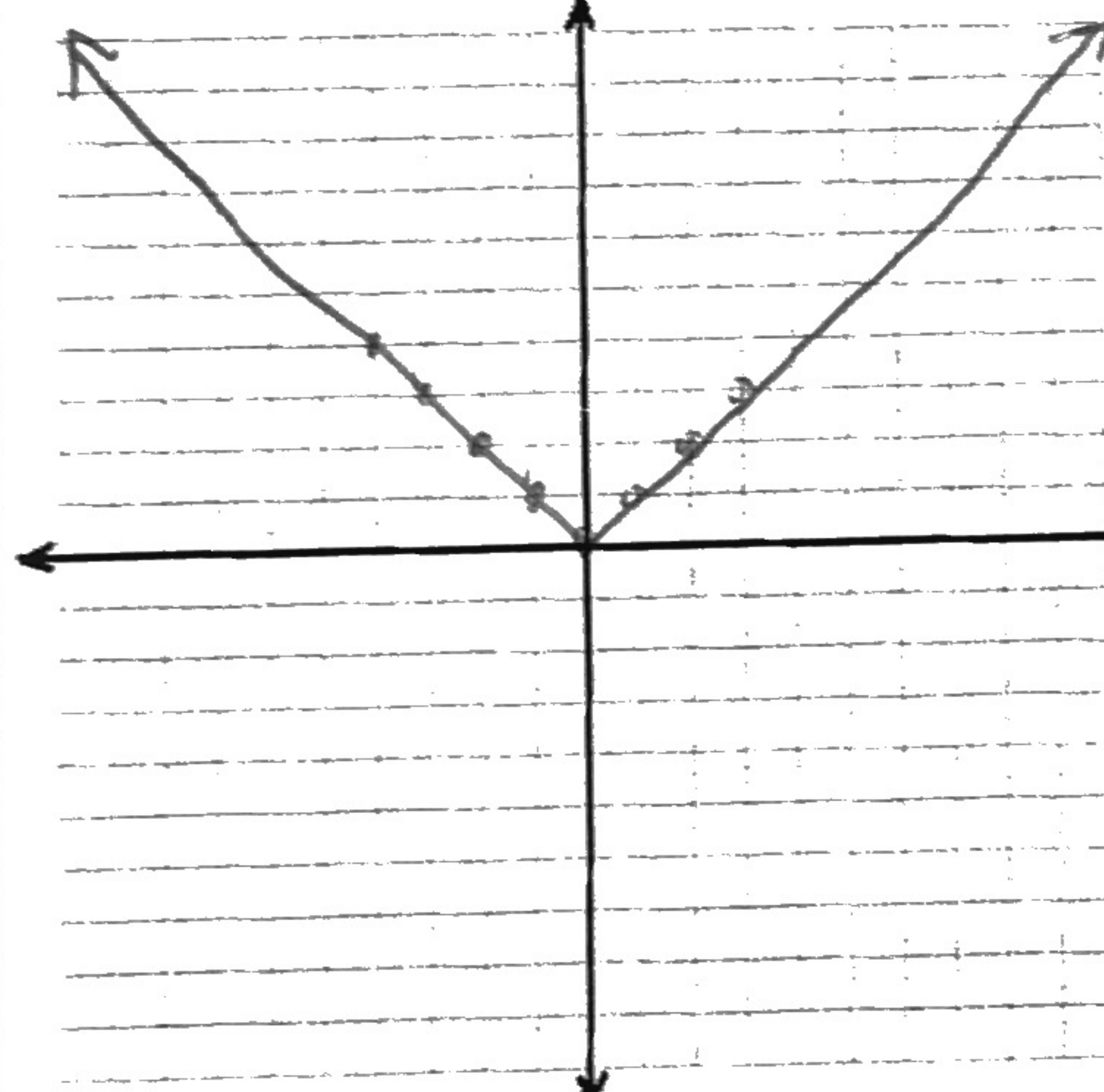
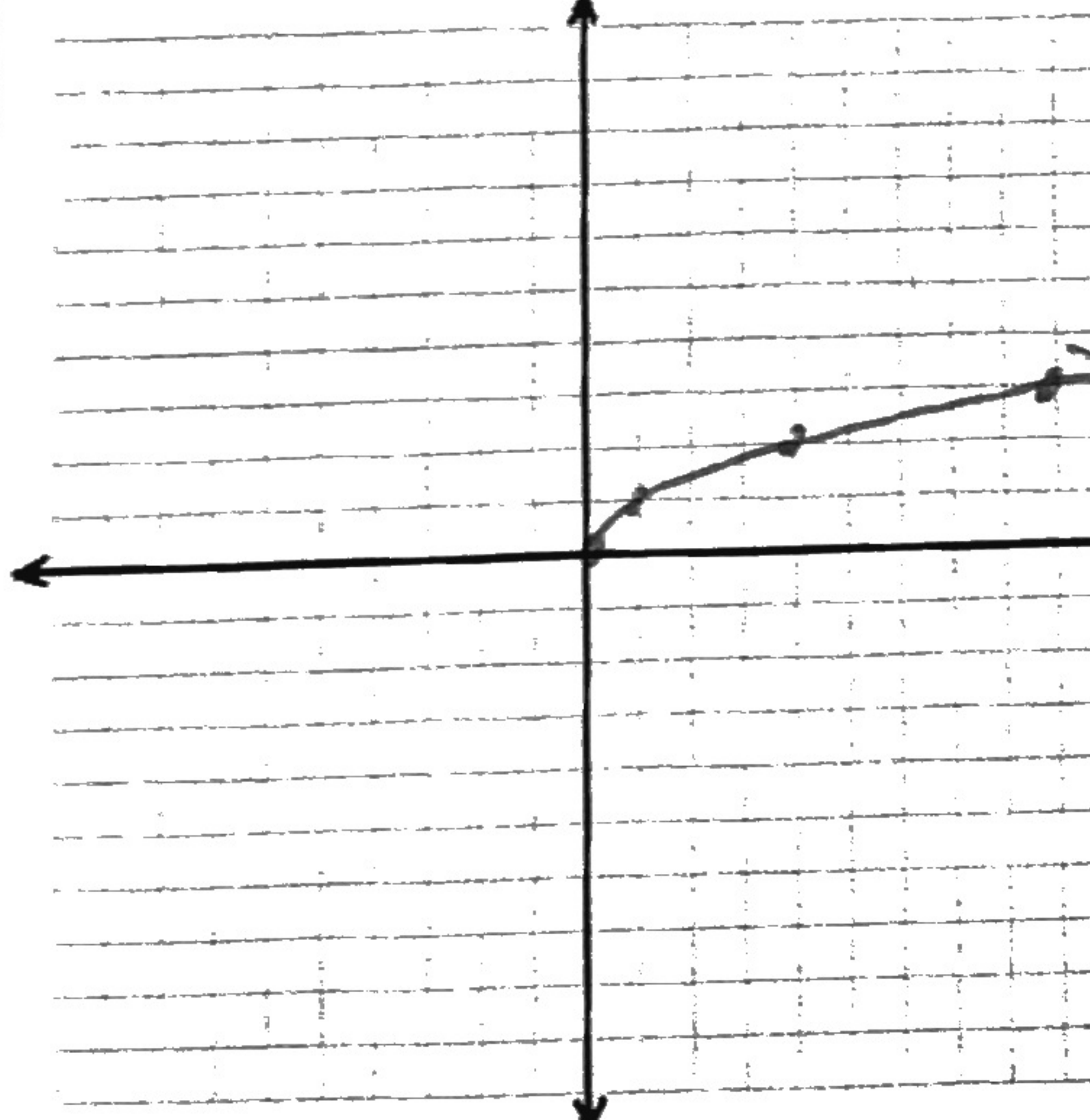
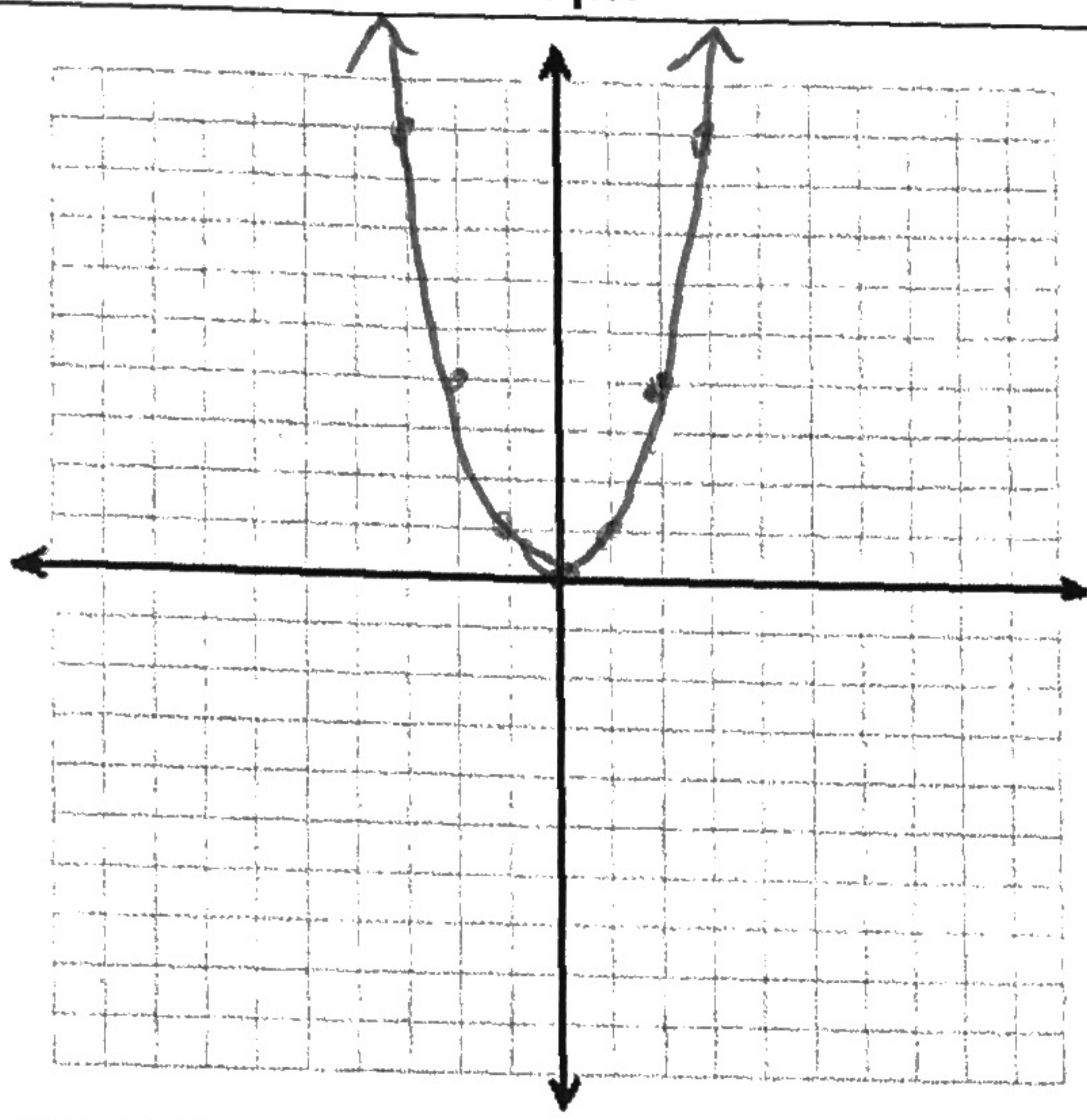
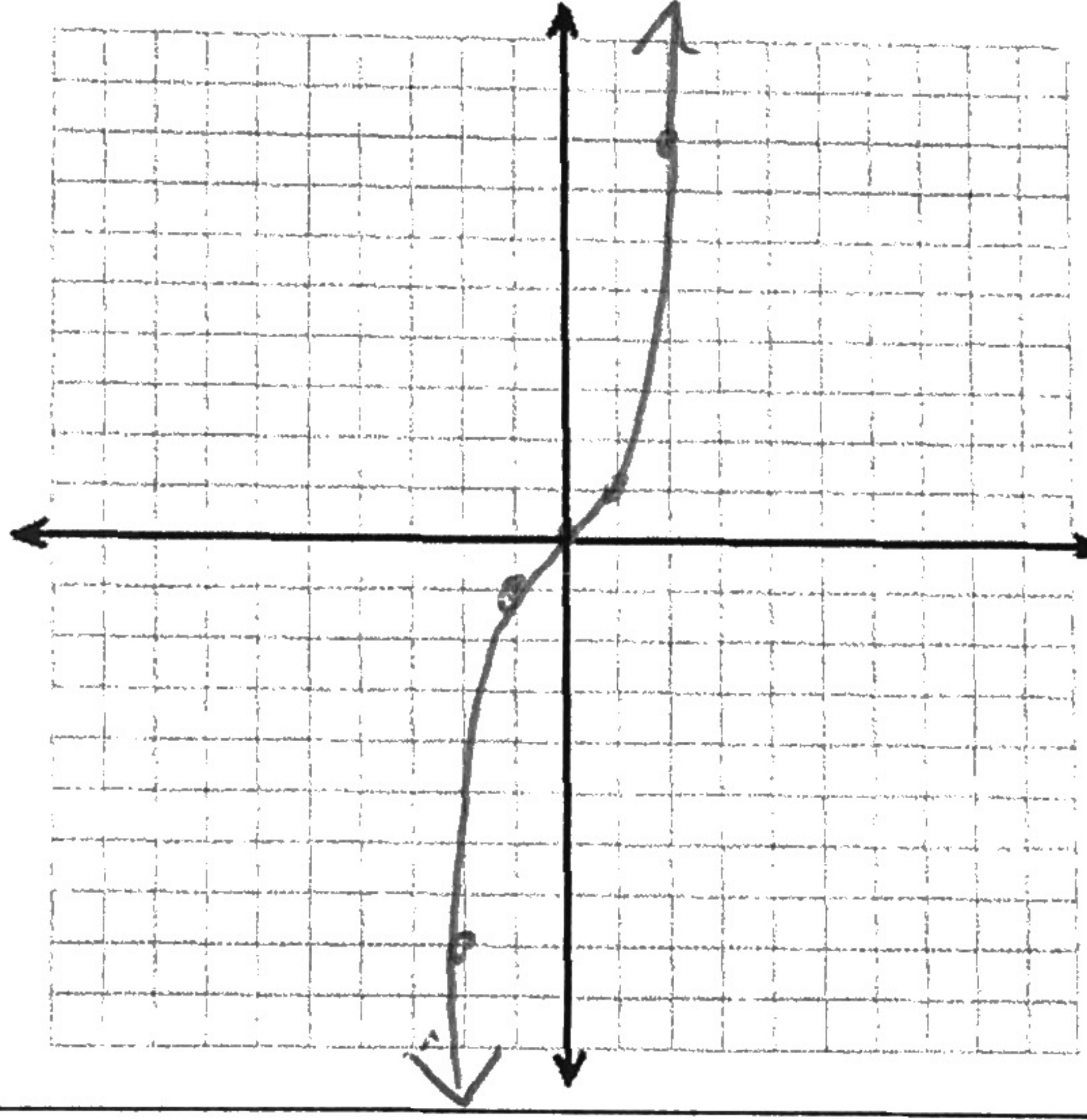
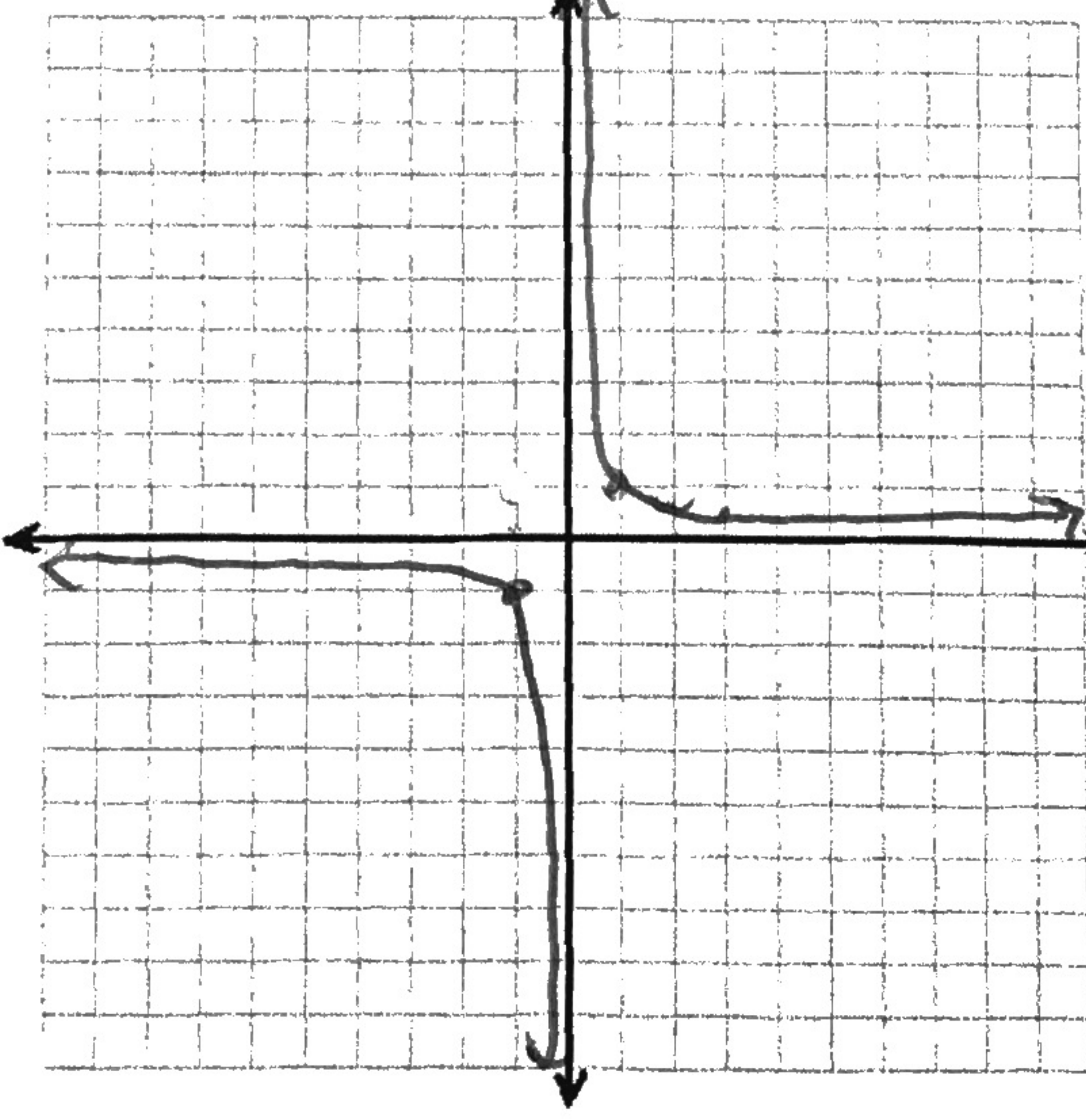


	Function Name & Equation	Graph	Characteristics	
1	Linear $f(x) = x$		Domain $(-\infty, \infty)$	Symmetry origin
			Range $(-\infty, \infty)$	Odd/Even odd
			x-intercept(s) $(0, 0)$	Increasing/ Decreasing $\uparrow: (-\infty, \infty)$
			y-intercept(s) $(0, 0)$	Relative Max/Min none
2	Absolute Value $f(x) = x $		Domain $(-\infty, \infty)$	Symmetry y-axis
			Range $y \geq 0$ or $[0, \infty)$	Odd/Even Even
			x-intercept(s) $(0, 0)$	Increasing/ Decreasing $\downarrow: (-\infty, 0)$ $\uparrow: (0, \infty)$
			y-intercept(s) $(0, 0)$	Relative Max/Min min: $(0, 0)$
3	Square Root $f(x) = \sqrt{x}$		Domain $x \geq 0$ or $[0, \infty)$	Symmetry none
			Range $y \geq 0$ or $[0, \infty)$	Odd/Even neither
			x-intercept(s) $(0, 0)$	Increasing/ Decreasing $\uparrow: (0, \infty)$
			y-intercept(s) $(0, 0)$	Relative Max/Min min: $(0, 0)$

	Function Name & Equation	Graph	Characteristics	
4	Quadratic $f(x) = x^2$		Domain $(-\infty, \infty)$	Symmetry y -axis
			Range $y \geq 0$ or $[0, \infty)$	Odd/Even Even
			x-intercept(s) $(0,0)$	Increasing/ Decreasing $\uparrow: (0, \infty)$ $\downarrow: (-\infty, 0)$
			y-intercept(s) $(0,0)$	Relative Max/Min $(0,0)$
5	Cubic $f(x) = x^3$		Domain $(-\infty, \infty)$	Symmetry origin
			Range $(-\infty, \infty)$	Odd/Even odd
			x-intercept(s) $(0,0)$	Increasing/ Decreasing $\uparrow: (-\infty, \infty)$
			y-intercept(s) $(0,0)$	Relative Max/Min none
6	Rational $f(x) = \frac{1}{x}$		Domain All $\mathbb{R}$ #'s, $x \neq 0$	Symmetry origin
			Range All $\mathbb{R}$ #'s $y \neq 0$	Odd/Even odd
			x-intercept(s) none	Increasing/ Decreasing $\downarrow: (-\infty, 0)$ $\uparrow: (0, \infty)$
			y-intercept(s) none	Relative Max/Min none

Analyze and describe characteristics of the following functions:

Function Name & Equation	Graph	Characteristics	
7 Step Function $f(x) = \lceil \lceil x \rceil \rceil + 1$		Domain $(-\infty, \infty)$	Symmetry none
		Range set of integers	Odd/Even neither
		x-intercept(s) $[-1, 0)$	Increasing/ Decreasing constant on $[k, k+1)$ for any integer k
		y-intercept(s) $(0, 1)$	Relative Max/Min none
Step Function $f(x) = 2\lceil \lceil x \rceil \rceil - 3$		Domain $(-\infty, \infty)$	Symmetry none
		Range all odd integers	Odd/Even neither
		x-intercept(s) none	Increasing/ Decreasing constant on $[k, k+1)$ for any integer k
		y-intercept(s) $(0, -3)$	Relative Max/Min none
9 Piecewise Function $f(x) = \begin{cases} 2x+3, & x \leq 1 \\ -x+4, & x > 1 \end{cases}$ $2x+3=0$ $2x=-3$ $x=-1.5$		Domain $(-\infty, \infty)$	Symmetry none
		Range $y \leq 5$ or $(-\infty, 5]$	Odd/Even neither
		x-intercept(s) $(-1.5, 0)$ $(-1.5, 0)$	Increasing/ Decreasing ↑: $(-\infty, 1)$ ↓: $(1, \infty)$
		y-intercept(s) $(0, 3)$	Relative Max/Min max: $(1, 5)$