① Fill in the table for $y = |x|$

x	-3	-2.2	-1	0	1.12	7	8.2
y							

② Try to figure out what is being done:

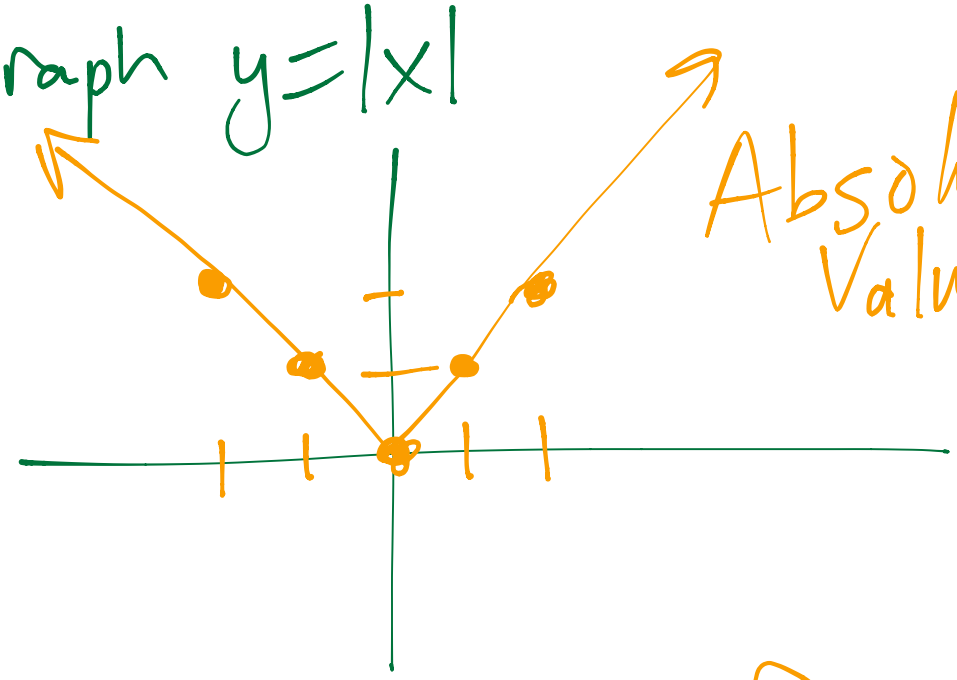
x	-3.2	-2.1	0.19	1.24	5.31
y	-4	-3	0	1	5

z	3.9	1.29	1.999999
y	3	1	1

Rounding down to nearest integer. Greatest Integer Function or Floor

Domain: $\mathbb{R}$ Range: $\mathbb{Z}$ (integers)

Graph $y=|x|$



Absolute Value

Greatest Integer function

$y = [\![x]\!]$

Floor: $y = \lfloor x \rfloor$

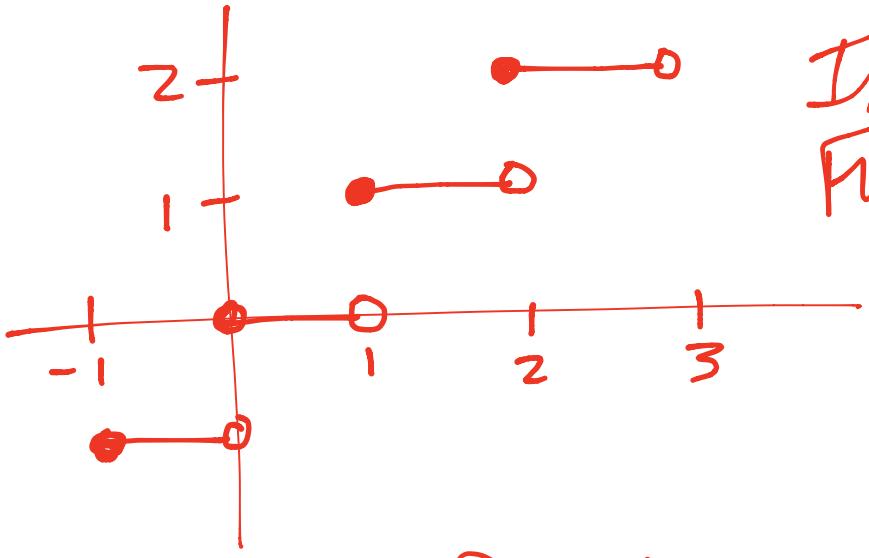
Ceiling: $y = \lceil x \rceil$

On TI-83 or 84:

MATH: NUM

1 → abs

5 → int



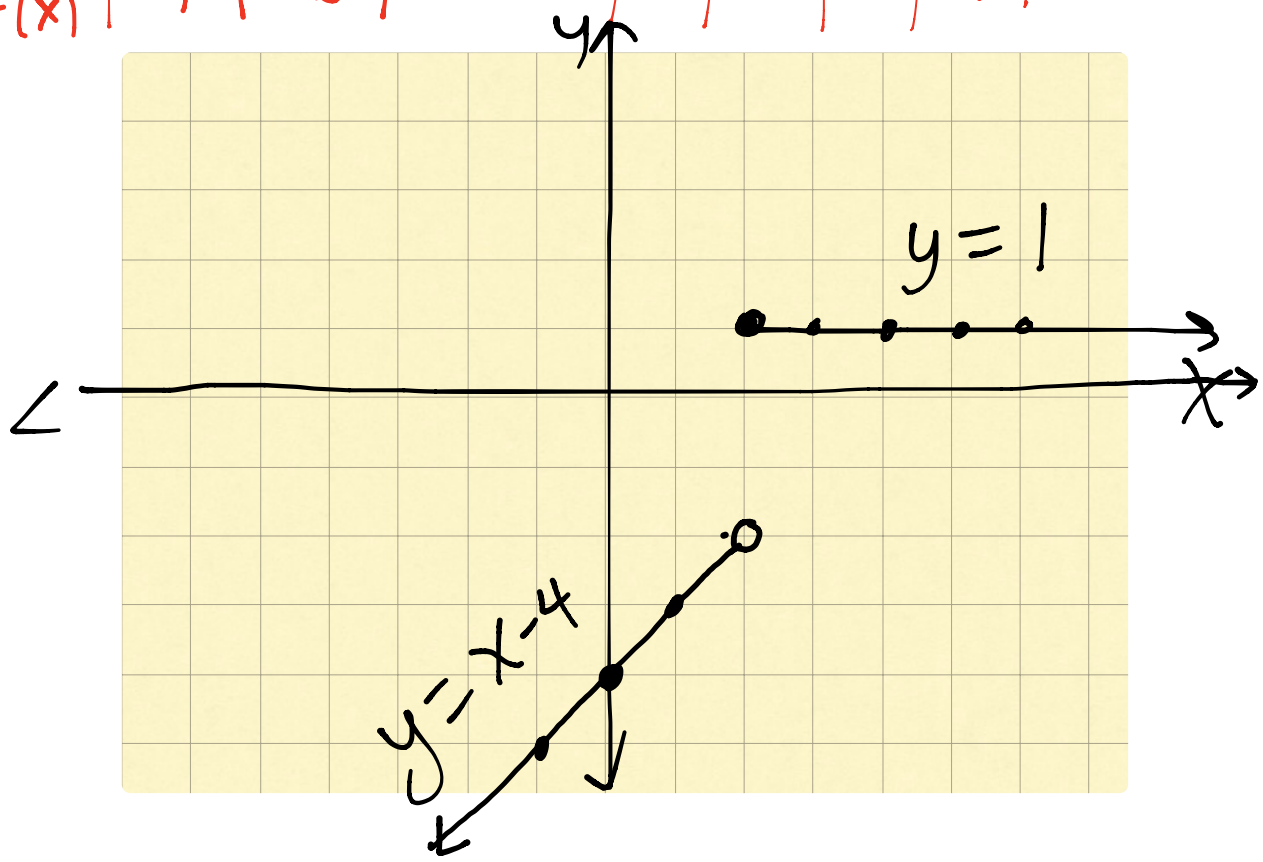
Greatest Integer Function

Piece-wise function

$$f(x) = \begin{cases} x-4 & \text{if } x < 2 \\ 1 & \text{if } x \geq 2 \end{cases}$$

"If x is less than 2, use $y = x-4$ to graph. If x is 2 or more, use $y = 1$ to graph."

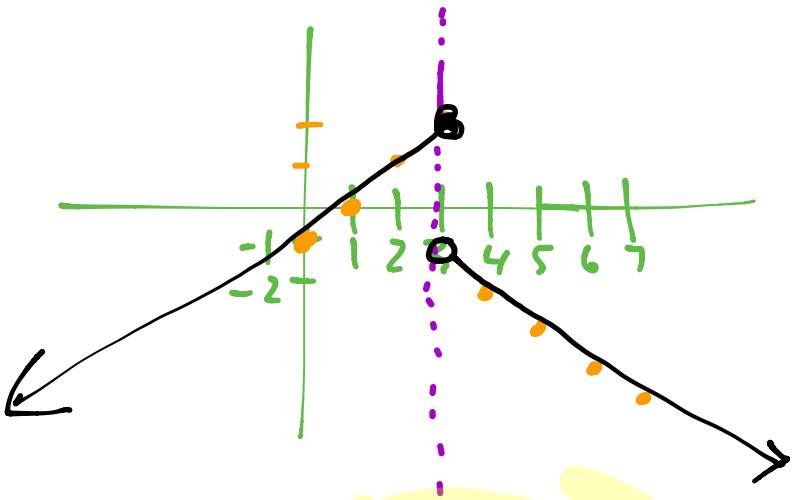
x	-3	-2	-1	0	1	2	3	4	5	1.99
$f(x)$	-7	-6	-5	-4	-3	1	1	1	1	-2.01



Graph: $g(x) = \begin{cases} x-1 & \text{if } x \leq 3 \\ 2-x & \text{if } x > 3 \end{cases}$

x	0	1	2	3	4	5	6	7
y	-1	0	1	2	-2	-3	-4	-5

⋮



$y_1 = (x-1)(x \leq 3)$

$y_2 = (2-x)(x > 3)$

TEST (under Math)

p. 93: 15-21, 24, 28, 32, 34, 38, 40, 44

Make graphs on graph paper. Use graphing calc to help.

Desmos