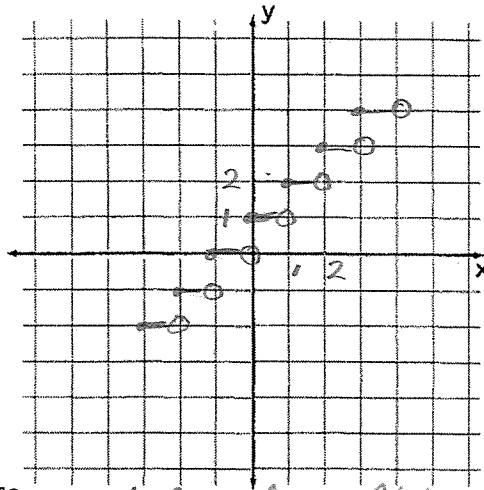Topic: Step Functions, Greatest Integer Functions

Make a table of values. Then graph each of the following to discover what the graphs look like.

1. $f(x) = [\![x + 1]\!]$

x	f(x)
0	1
0.2	1
0.9	1
1	2
1.2	2
1.5	2
1.9	2
2	3
2.2	3

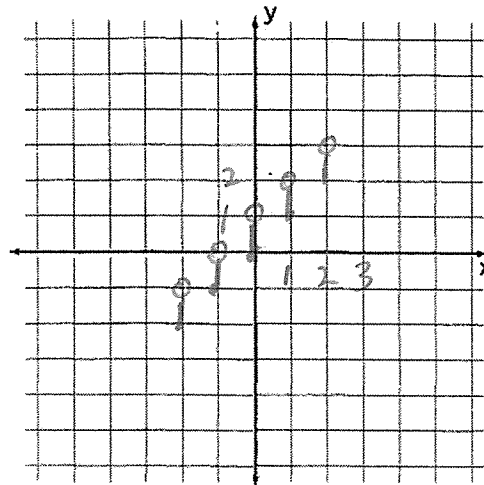

1a: How does this graph compare to $f(x) = [\![x]\!]$?

Parent function, $f(x) = [x]$, is shifted up 1 unit or shifted left 1 unit.

2. $x = [\![y]\!]$
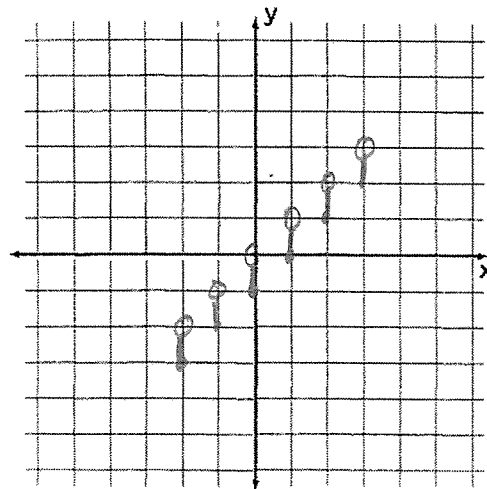
output | input

x	f(x)
0	0
0.	0.2
0	0.5
0	0.9
1	1.0
1	1.5
1	1.9
2	2.0

3. $x = [\![y + 1]\!]$ input

x	f(x)
-1	-1.5
-1	-1.2
0	-1
0	-0.5
0	-0.2
1	0
1	0.5

4. Compare the graphs for #2 and #3:

If #2 is the parent graph, then graph #3 was shifted down 1 unit or shifted right 1 unit.