Precalc

Greatest Integer Function Practice

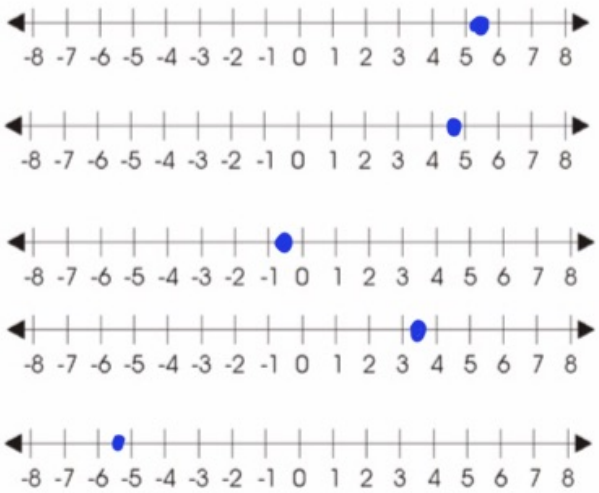
$[\![5.28]\!] = 5$

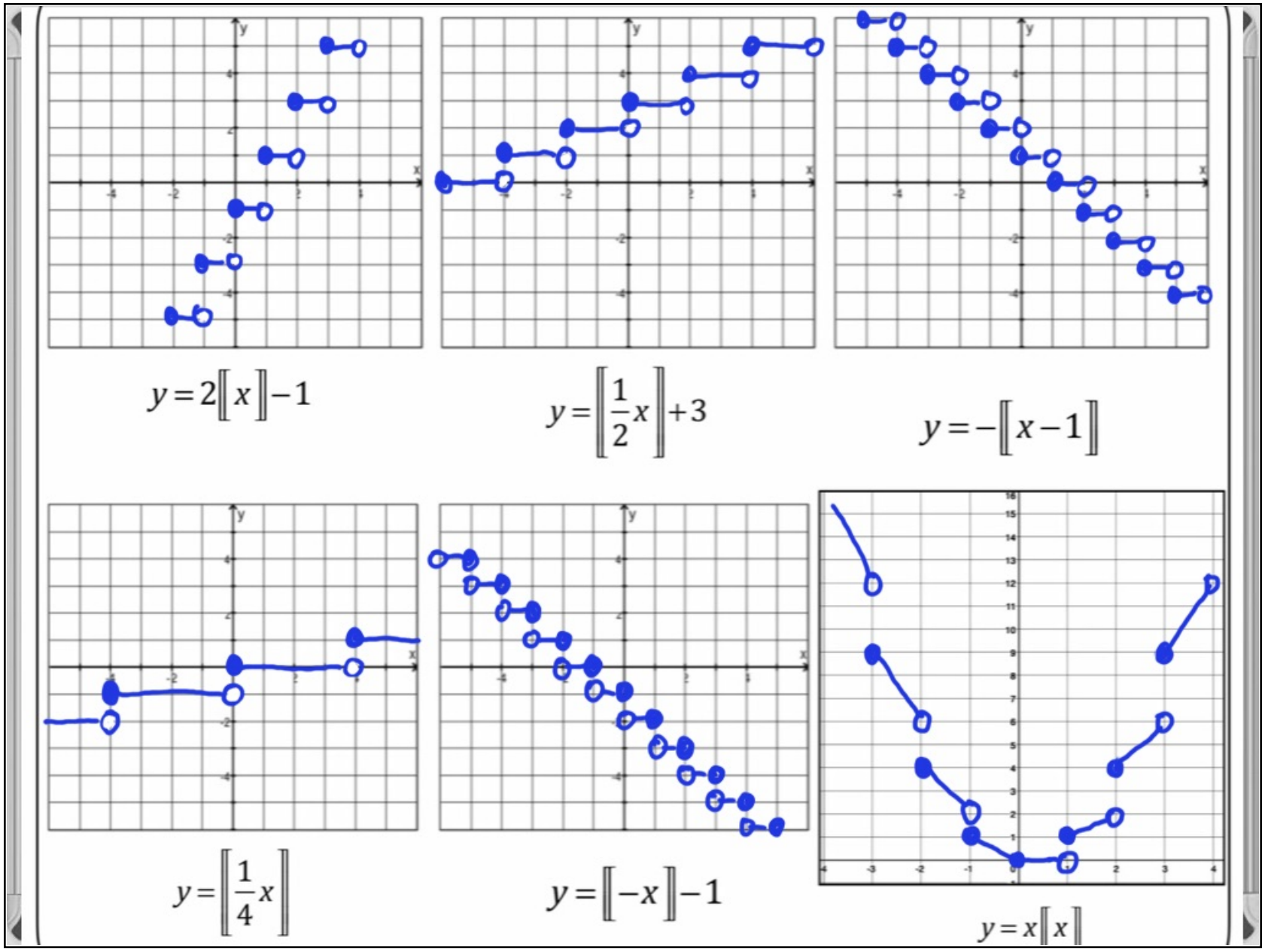
$[\![4.99]\!] = 4$

$[\![-0.5]\!] = -1$

$\left[\!\left[\frac{10}{3}\right]\!\right] = 3$

$[\![-5.1]\!] = -6$





$y = 2\left[\left[x\right]\right] - 1$

$y = \left[\left[\frac{1}{2}x\right]\right] + 3$

$y = -\left[\left[x - 1\right]\right]$

$y = \left[\left[\frac{1}{4}x\right]\right]$

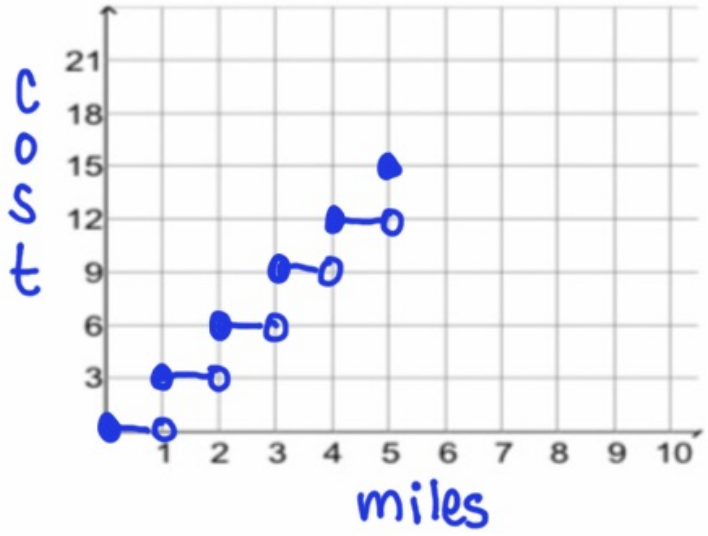
$y = \left[\left[-x\right]\right] - 1$

$y = x\left[\left[x\right]\right]$

A store will deliver a sofa for $3.00 per mile including fractions of a mile. (For example, 25.5 miles is $3(25) = $75.) There is no charge within the first mile. Use the greatest integer function to express C, the delivery cost, as a function of x, the number of miles from the store. Sketch a graph of this function for $0 \le x \le 5$.

Make a table of values and sketch the graph of the resulting function.

x (miles)	y (cost)
0	$0
0.5	$0
1	$1
1.5	$1
2	$2
2.5	$2



Function: $y = 3[\![x]\!]$

The cost of sending an overnight package from College Station to Dallas is $10.00 for a package under one pound and $2.50 is added at one pound and each additional whole pound. Use the greatest integer function to create a model for the cost C of overnight delivery of a package weighing x pounds. Sketch the graph for packages up to 7 pounds.

Make a table of values and sketch the graph of the resulting function.

x (weight)	y (cost)
0	$10
0.5	$10
1.5	$12.50
2	$15
3.5	$17.50