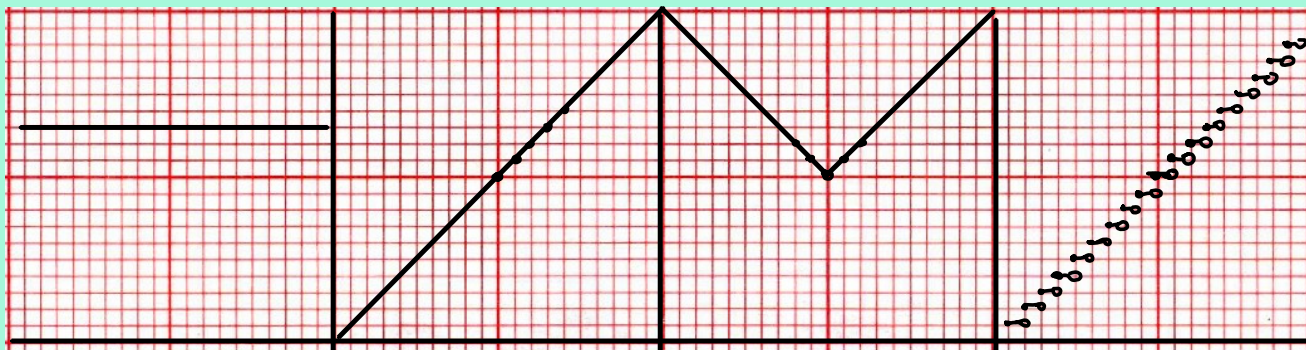


Graphing Special Linear Functions

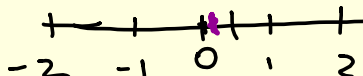


Constant
 $f(x) = 3$
 $y = 3$

Identity
 $f(x) = x$
 $y = x$

Absolute Value
 $f(x) = |x|$

x	y
0	0
1	1
2	2
-1	1
-2	2



Greatest Integer.
 $f(x) = [x]$

0	0
0.1	0
0.5	0
0.999	0
1	1
1.7	1



$$f(x) = 4[x] - 1$$

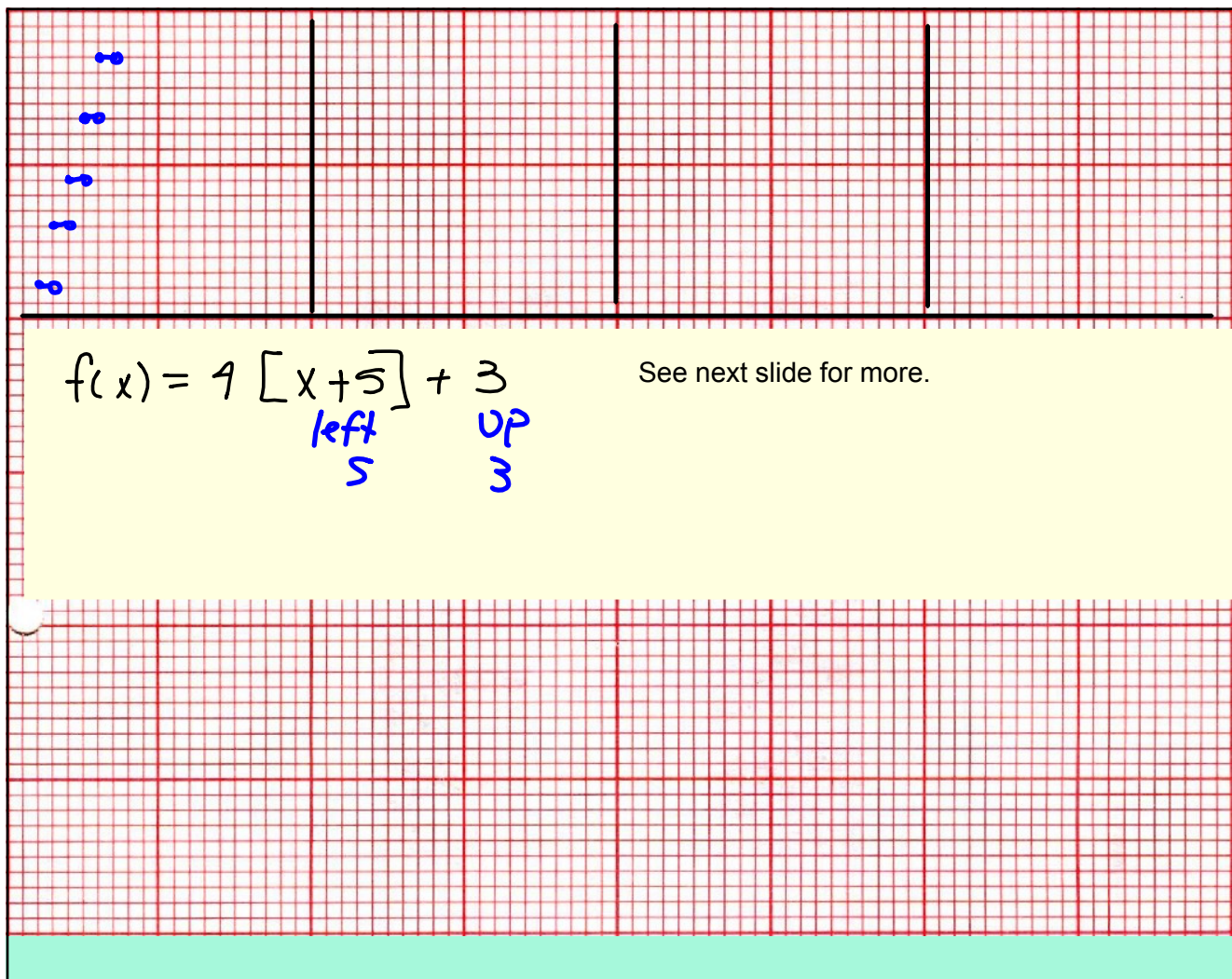
$$\begin{aligned} f(3.2) &= 4[3.2] - 1 \\ &= 4(3) - 1 \\ &= 12 - 1 \\ &= 11 \end{aligned}$$

$$\begin{aligned} f(-2.7) &= 4[-2.7] - 1 \\ &= 4(-3) - 1 \\ &= -12 - 1 \\ &= -13 \end{aligned}$$

$$\begin{aligned} f(x) &= [2x + 4] \\ f(-3.1) &= [2(-3.1) + 4] \\ &= [-6.2 + 4] \\ &= [-2.2] \\ &= \underline{-3} \end{aligned}$$

TRANSFORMATION RULES

$f(x) + c$	Move up c units	$ x + 4$
$f(x) - c$	Move down c units	$ x - 7$
$f(x + c)$	Moves left c units	$ x + 3 $
$f(x - c)$	Moves right c units	$ x - 8 $
$cf(x)$	Changes slope	$\frac{2}{3} x $
$-f(x)$	Reflect over x -axis	$-2 x $
$f(-x)$	Reflect over y -axis	$ -x $



$$f(x) = 1[x + 5] + 3$$

left 5 UP 3

See next slide for more.

