The general form of an Absolute Value Function is: $f(x) = a|x-h|+k$

Vertex: (h,k)

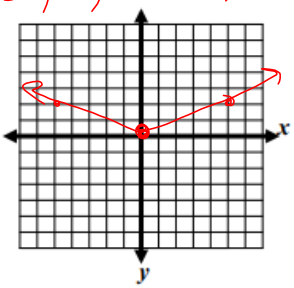
Let $g(x)$ be the indicated transformation(s)of $f(x) = \|x\|$. Write the rule for $g(x)$.		
Vertical compression by a factor of $\frac{1}{2}$ $g(x)=\frac{1}{2}\|x\|$	Horizontal translation to the right 3 and vertical translation up 5. $g(x)=\|x-3\|+5$	Reflection in the x-axis, horizontal translation to the left 4, and vertical translation up 1. $g(x)=-\|x+4\|+1$

Using the graph of $f(x) = |x|$ as a guide, describe the transformations of each function and identify its domain and range. Then, graph each function.

1. $f(x)=\frac{2}{5}|x|$ Vertex (0,0)

Transformations: vertical compression by 2/5

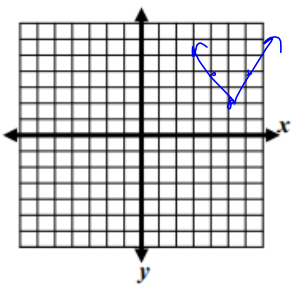
D: $(-\infty,\infty)$ R: $[0,\infty)$



2. $f(x)=2|x-5|+2$ vertex (5, 2)

Transformations: vertical stretch by 2, right 5, up 2

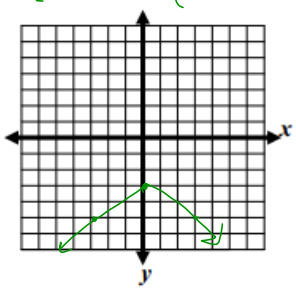
D: $(-\infty,\infty)$ R: $[2,\infty)$



3. $f(x)=-\frac{2}{3}|x|-3$ (0, -3)

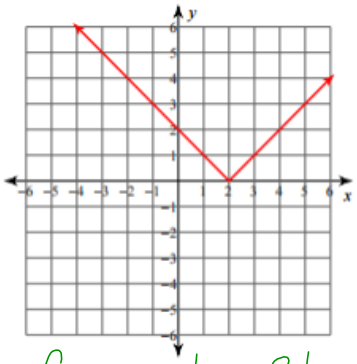
Transformations: down 3, vertical comp. by 2/3, reflection in x

D: $(-\infty,\infty)$ R: $(-\infty,-3]$



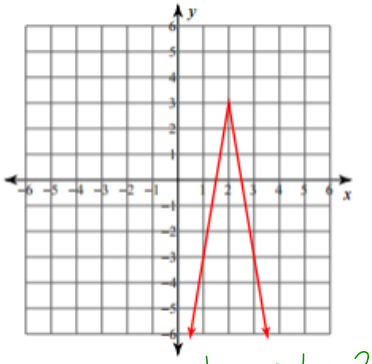
Write the equation of the absolute value function.

4.



$f(x) = |x-2|$

5.



$f(x) = -6|x-2|+3$