## Algebra 2

## 0-06 Graph Absolute Value Functions and Transformations

## Transformations

- Changes to graph's $\qquad$ ,

$$
f(x)=a \cdot f(x-h)+k
$$

- Stretch/Shrink
- $\qquad$ is the factor the graph is stretched or shrunk $\qquad$
- $\qquad$ the $y$-coordinates by $a$
- Reflection $\rightarrow$ $\qquad$ the graph over a $\qquad$
- If $a$ is $\qquad$ the graph will be flipped over the $\qquad$
- Translation $\rightarrow$ $\qquad$ graph
- $h$ is how far graph moves to $\qquad$
- $k$ is how far graph moves $\qquad$
$\qquad$
- Apply stretch/shrinks and reflections $\qquad$ translations
The graph of $f(x)$ is given. Sketch the following functions:
$y=-\frac{1}{2} f(x)$


$$
y=f(x-1)+3
$$



## Absolute Value Function

$$
f(x)=a|x-\mathrm{h}|+k
$$

## To graph an absolute value graph,

1. Make a $\qquad$ of values,
OR
2. plot the $\qquad$ (h, k)
3. follow the $\qquad$ of $a$ on the $\qquad$ and -a on the $\qquad$


Graph and compare with $y=|x|$
$y=|x-2|+3$


$$
y=\frac{1}{4}|x|
$$



Graph and compare with $y=|x|$
$y=-3|x+1|-2$


Write an absolute value equation for the given graph.


