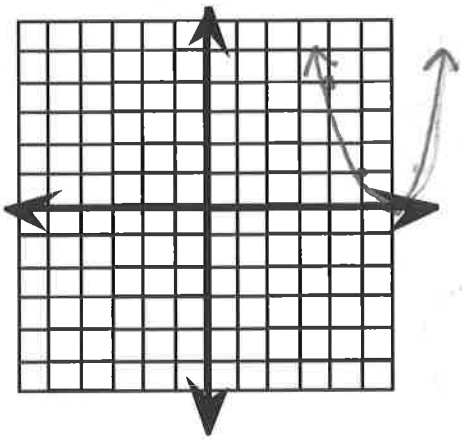
Algebra 2 Translations **Name** KEY **Period**_____

Make a sketch of each function. Then state the domain, range, vertex and line of symmetry.

1. $y=(x-6)^2$



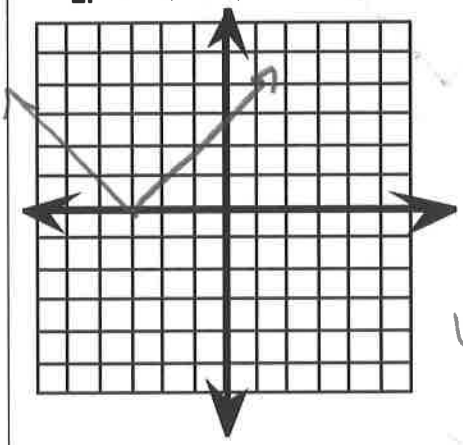
D $x \in \mathbb{R}$

R $y \in [0,\infty)$

V $(6,0)$

LOS $x=6$

2. $y=|x+3|$



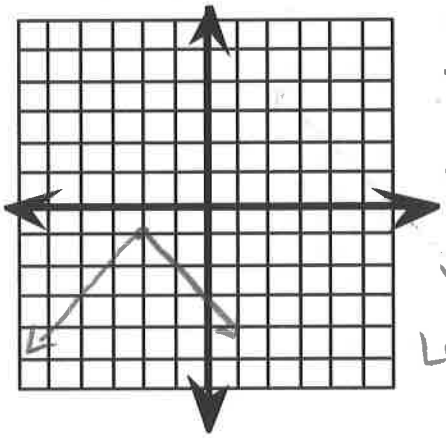
D: $x \in \mathbb{R}$

R $y \in [0,\infty)$

V $(-3,0)$

LOS $x=-3$

3. $y=-|x+2|-1$



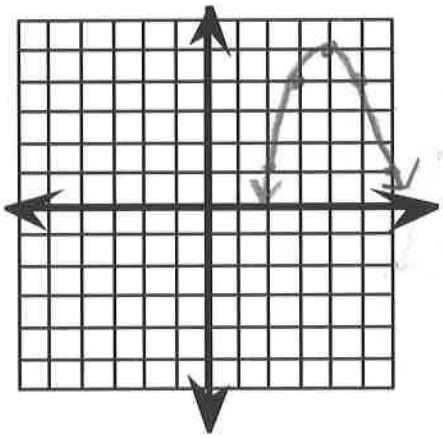
D $x \in \mathbb{R}$

R $y \in (-\infty,-1]$

V $(-2,-1)$

LOS $x=-2$

4. $y=-(x-4)^2+5$



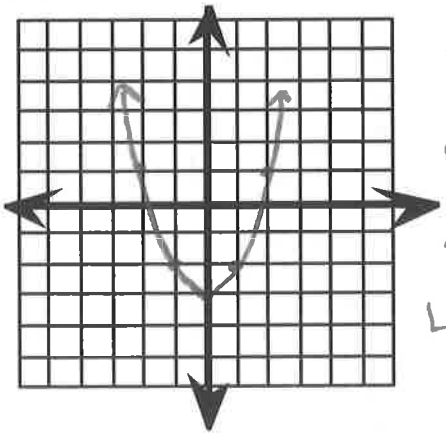
D $x \in \mathbb{R}$

R $y \in (-\infty,5]$

V $(4,5)$

LOS $x=4$

5. $y=-3+x^2$



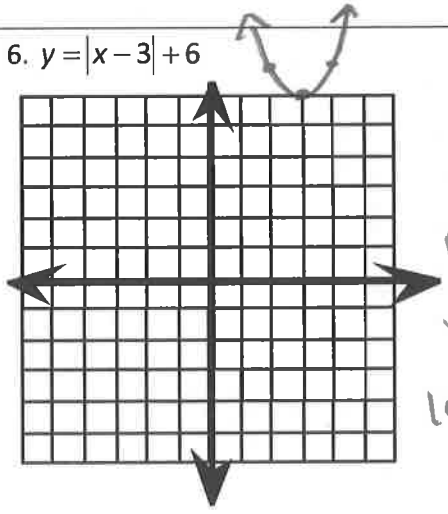
D $x \in \mathbb{R}$

R $y \in [-3,\infty)$

V $(0,-3)$

LOS $x=0$

6. $y=|x-3|+6$



D $x \in \mathbb{R}$

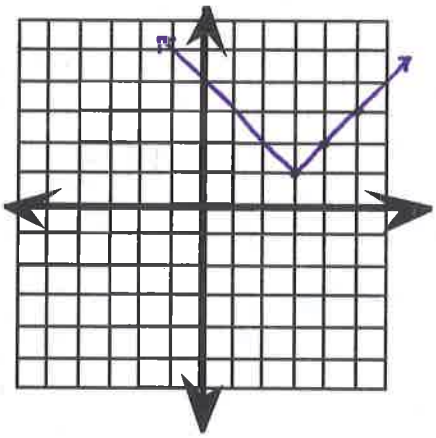
R $y \in [6,\infty)$

V $(3,6)$

LOS $x=3$

Write the equation of each graph below. Then state the domain and range.

7.

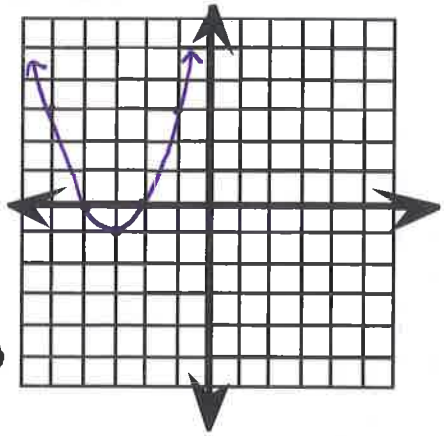


$y = |x-3| + 1$

D: $x \in \mathbb{R}$

R $y \in [1, \infty)$

8.

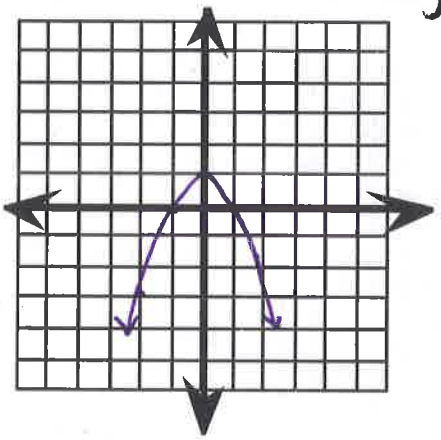


$y = (x+3)^2 - 1$

D: $x \in \mathbb{R}$

R: $y \in [-1, \infty)$

9.

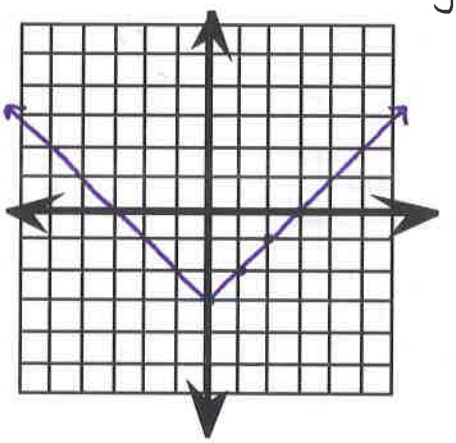


$y = -x^2 + 1$

D: $x \in \mathbb{R}$

R: $y \in (-\infty, 1]$

10.

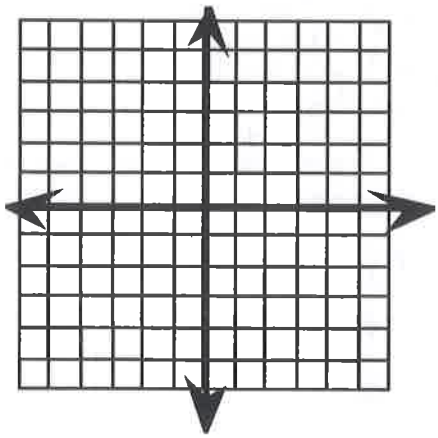


$y = |x| - 3$

D: $x \in \mathbb{R}$

R: $y \in [-3, \infty)$

11.



12.