**Assignment: Absolute Value Transformations** $f\left(x\right)=a\left|x-h\right|+k$

**Use transformations to graph the following equations. Fill in the requested information.**

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period \_\_\_\_\_\_\_\_

![[image]]()![[image]]()![[image]]()1. $f\left(x\right)=\left|x+5\right|$ 2. $f\left(x\right)=\left|x\right|-6$ 3. $f\left(x\right)=-3\left|x\right|$

Vertex: \_\_\_\_\_\_\_\_\_\_

Domain: \_\_\_\_\_\_\_\_\_\_

Range: \_\_\_\_\_\_\_\_\_\_

Max/Min: \_\_\_\_\_\_\_\_\_\_

x-intercept: \_\_\_\_\_\_\_\_\_\_

y-intercept: \_\_\_\_\_\_\_\_\_\_

Vertex: \_\_\_\_\_\_\_\_\_\_

Domain: \_\_\_\_\_\_\_\_\_\_

Range: \_\_\_\_\_\_\_\_\_\_

Max/Min: \_\_\_\_\_\_\_\_\_\_

x-intercept: \_\_\_\_\_\_\_\_\_\_

y-intercept: \_\_\_\_\_\_\_\_\_\_

Vertex: \_\_\_\_\_\_\_\_\_\_

Domain: \_\_\_\_\_\_\_\_\_\_

Range: \_\_\_\_\_\_\_\_\_\_

Max/Min: \_\_\_\_\_\_\_\_\_\_

x-intercept: \_\_\_\_\_\_\_\_\_\_

y-intercept: \_\_\_\_\_\_\_\_\_\_

![[image]]()![[image]]()![[image]]()4. $f\left(x\right)=\left|x-2\right|-5$ 5. $f\left(x\right)=2\left|x\right|+1$ 6. $f\left(x\right)=-\frac{1}{2}\left|x+5\right|$

Vertex: \_\_\_\_\_\_\_\_\_\_

Domain: \_\_\_\_\_\_\_\_\_\_

Range: \_\_\_\_\_\_\_\_\_\_

Max/Min: \_\_\_\_\_\_\_\_\_\_

x-intercept: \_\_\_\_\_\_\_\_\_\_

y-intercept: \_\_\_\_\_\_\_\_\_\_

Vertex: \_\_\_\_\_\_\_\_\_\_

Domain: \_\_\_\_\_\_\_\_\_\_

Range: \_\_\_\_\_\_\_\_\_\_

Max/Min: \_\_\_\_\_\_\_\_\_\_

x-intercept: \_\_\_\_\_\_\_\_\_\_

y-intercept: \_\_\_\_\_\_\_\_\_\_

Vertex: \_\_\_\_\_\_\_\_\_\_

Domain: \_\_\_\_\_\_\_\_\_\_

Range: \_\_\_\_\_\_\_\_\_\_

Max/Min: \_\_\_\_\_\_\_\_\_\_

x-intercept: \_\_\_\_\_\_\_\_\_\_

y-intercept: \_\_\_\_\_\_\_\_\_\_

![[image]]()![[image]]()![[image]]()7. $f\left(x\right)=-\left|x+4\right|-2$ 8. $f\left(x\right)=2\left|x-3\right|+2$ 9. $f\left(x\right)=3\left|x\right|-6$

Vertex: \_\_\_\_\_\_\_\_\_\_

Domain: \_\_\_\_\_\_\_\_\_\_

Range: \_\_\_\_\_\_\_\_\_\_

Max/Min: \_\_\_\_\_\_\_\_\_\_

x-intercept: \_\_\_\_\_\_\_\_\_\_

y-intercept: \_\_\_\_\_\_\_\_\_\_

Vertex: \_\_\_\_\_\_\_\_\_\_

Domain: \_\_\_\_\_\_\_\_\_\_

Range: \_\_\_\_\_\_\_\_\_\_

Max/Min: \_\_\_\_\_\_\_\_\_\_

x-intercept: \_\_\_\_\_\_\_\_\_\_

y-intercept: \_\_\_\_\_\_\_\_\_\_

Vertex: \_\_\_\_\_\_\_\_\_\_

Domain: \_\_\_\_\_\_\_\_\_\_

Range: \_\_\_\_\_\_\_\_\_\_

Max/Min: \_\_\_\_\_\_\_\_\_\_

x-intercept: \_\_\_\_\_\_\_\_\_\_

y-intercept: \_\_\_\_\_\_\_\_\_\_

**Write the equation for each graph below.**

10. 11. 12.

Equation:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

For what value of *x* is *f(x)* = -2?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Equation:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

For what value of *x* is *f(x)* = 4?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Equation:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

For what value of *x* is *f(x)* = 3?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_