Graph a quadratic in Vertex Form

Name: _____
period: _____

Given an equation: Find (a) vertex, (b) if the vertex is a maximum or minimum, (c) y-intercept, (d) then, sketch a rough graph

1. $f(x)=(x-3)^2+5$
vertex: (,)
maximum / minimum
y-intercept: (,)

2. $f(x)=-1(x-2)^2+1$
vertex: (,)
maximum / minimum
y-intercept: (,)

3. $f(x)=3(x+4)^2+2$
vertex: (,)
maximum / minimum
y-intercept: (,)

4. $f(x)=5(x+1)^2-3$
vertex: (,)
maximum / minimum
y-intercept: (,)

5. $f(x)=-2(x-5)^2$
vertex: (,)
maximum / minimum
y-intercept: (,)

6. $f(x)=(x-4)^2-1$
vertex: (,)
maximum / minimum
y-intercept: (,)

7. $f(x)=(x+2)^2$
vertex: (,)
maximum / minimum
y-intercept: (,)

8. $f(x)=x^2+3$
vertex: (,)
maximum / minimum
y-intercept: (,)

9. $f(x)=2x^2-1$
vertex: (,)
maximum / minimum
y-intercept: (,)

Given an equation: Rewrite the equation in the form of $f(x)=(x-h)^2+k$

(a) vertex, **(b) if the vertex is a maximum or minimum,**
(c) y-intercept, **(d) then, sketch a rough graph**

10. $f(x)=x^2+6x+1$

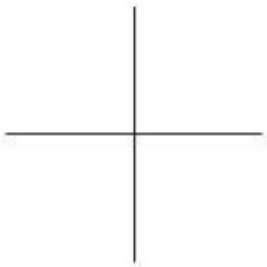
$$\left(\frac{\quad}{2}\right)^2=\left(\quad\right)^2=\_\_\_\_\_$$

$f(x)=x^2+6x$ _____ $+1$ _____

$f(x)=(\qquad)^2+1$ _____

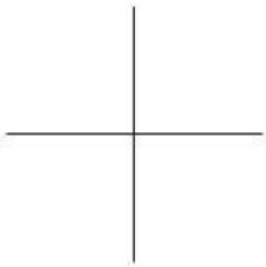
$f(x)=(\qquad)^2$ _____

vertex: (,)
maximum / minimum
y-intercept: (,)



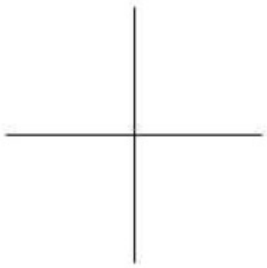
11. $f(x)=x^2-2x-8$

vertex: (,)
maximum / minimum
y-intercept: (,)



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

vertex: (,)
maximum / minimum
y-intercept: (,)



13. $f(x)=x^2-6x+4$

vertex: (,)
maximum / minimum
y-intercept: (,)