F.IF.4 (Alg1) **Intro to Polynomials - Vertex Form** Name _____

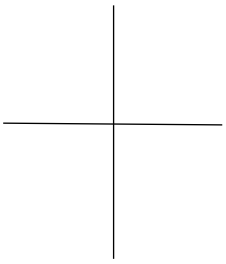
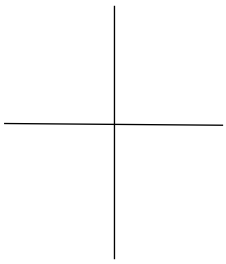
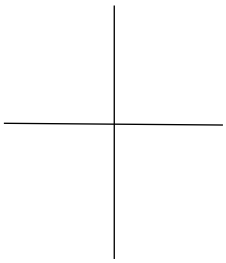
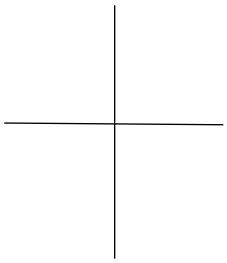
Given the list below, list the equations that have:

2 Real Solutions **1 Real Solution** **0 Real Solutions**

a) $y = a(x-h)^2 - k$
b) $y = -a(x+h)^2 - k$
c) $y = a(x+h)^2 + k$
d) $y = a(x-h)^2$
e) $y = -a(x-h)^2 + k$
f) $y = -a(x-h)^2 - k$
g) $y = a(x+h)^2 - k$
h) $y = -a(x+h)^2$

Sketch the graphs of each to prove your answers.

a) b) c) d)

e) f) g) h)