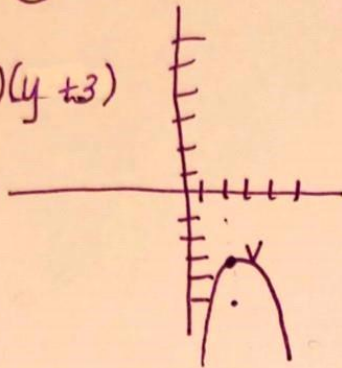Sketch

Writing Equations given Vertex and Focus
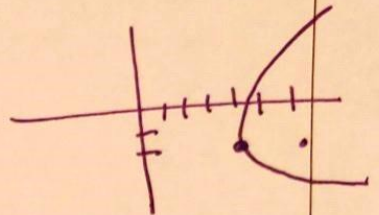
Vertex (2, -3) Focus (2, -5)

$$(x-2)^2 = 4(-2)(y+3)$$

Vertex (4, -2) Focus (6, -2)

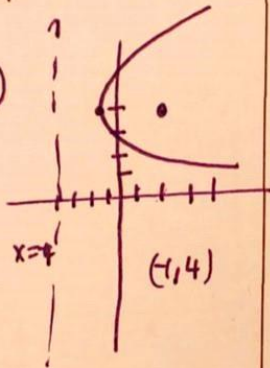$$(y+2)^2 = 4(2)(x-4)$$
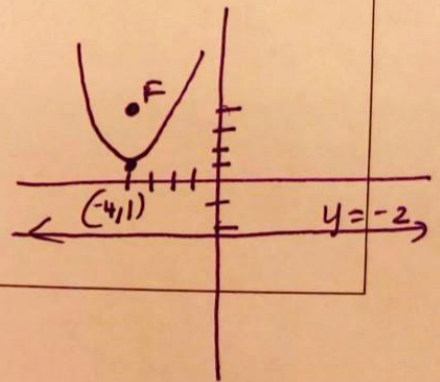
Writing Equations given Directrix and Focus

Focus: (2,4); directrix line: x = -4

$$(y-4)^2 = 4(3)(x+1)$$

x=-4

(-1,4)

Vertex is halfway between focus & directrix

Focus: (-4,4); directrix line: y = -2

$$(x+4)^2 = 4(3)(y-1)$$

•F

(-4,1)

y = -2