Name: 2/10/2020

HansenMath™ Algebra 2: Parabola assignment, Part 2

Example 1: Graph the parabola given by the equation, $y = \frac{1}{8}(x+1)^2 + 4$

1.) What is the direction of opening? ↑

2.) What is the vertex? (−1 , 4)

3.) What is the distance, p, from the vertex to the focus?
Plot and record the location of the Focus, F(−1 , 6)

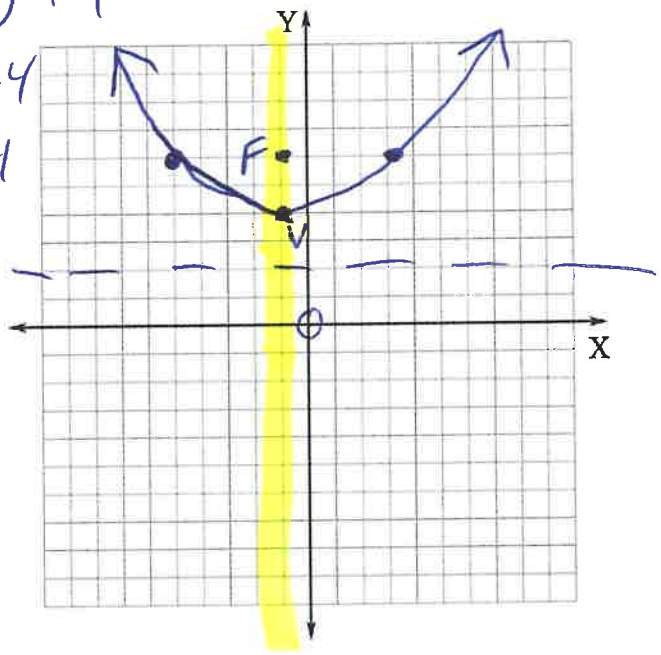
$\frac{1}{4p} = \frac{1}{8}$ $\quad 4p = 8$ $\quad p = 2$

4.) Draw in the directrix line. Equation: $y = 2$

*5.) Draw in the Axis of Symmetry. Equation: $x = -1$

*6.) Plug in a 3 for x into original equation to get another point

(3, 6)



*7.) Reflect this new point over the Axis of Symmetry to plot a second point. Now, sketch the Parabola!!

Example 2: Graph the parabola given by the equation, $x = -\frac{1}{12}(y-3)^2 + 2$

1.) What is the direction of opening? ↔

2.) What is the vertex? (2 , 3)

3.) What is the distance, p, from the vertex to the focus?
Plot and record the location of the Focus, F(−1 , 3)

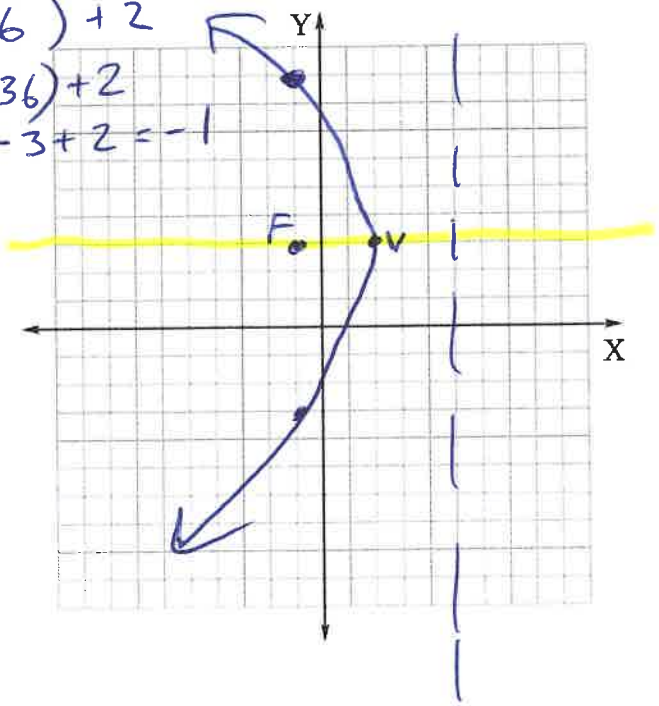
$\frac{1}{4p} = -\frac{1}{12}$ $\quad p = -3$

4.) Draw in the directrix line. Equation: $x = 5$

*5.) Draw in the Axis of Symmetry. Equation: $y = 3$

*6.) Plug in a 9 for y into original equation to get another point

(−1, 9)



*7.) Reflect this new point over the Axis of Symmetry to plot a second point. Now, sketch the Parabola!!