Here’s an example, your problem is in the next column.

Example. Find the axes/directrix and the focal point(s).
Draw the graph of \( y^2 - 2y + 4x - 3 = 0 \).

Write in parabolic form \((y - b)^2 = k(x - a)\)
\[ y^2 - 2y + 4x - 3 = 0 \]
\[ (y^2 - 2y) = -4x + 3 \]
\[ (y^2 - 2y + 1) = -4x + 3 + 1 \]
\[ (y - 1)^2 = -4x + 4 \]
\[ (y - 1)^2 = -4(x - 1) \]

This is the horizontal parabola \( y^2 = -4x \)
shifted right 1 and up 1 to get \( (y - 1)^2 = -4(x - 1) \)
\[ k = -4 \quad p = k/4 = -4/4 = -1 \]
Vertex: \((0, 0) \rightarrow (1, 1)\)
Focus: \((p, 0) = (-1, 0) \rightarrow (0, 1)\)
Directrix: \( x = -p, x = 1 \rightarrow x = 2 \)
(a)(3) Directrix: \( x = 2 \)
(b)(3) Focal point(s): \( (0, 1) \)
(c)(9) Graph

Graph: Mark the focal width points on the graph.

24. Find the axes/directrix and the focal point(s).
Draw the graph of \( x^2 + 2x - 4y - 3 = 0 \).

Write in parabolic form \((x - b)^2 = k(y - a)\)

This is the vertical parabola ________________
shifted ________ and ________ to get
Vertex: \((0, 0) \rightarrow \) chk=2
Focus: \((0, p) = (\_,\_) \rightarrow (\_,\_)\) chk=1
Directrix: \( y = -p, \) ________ \( \rightarrow \) ________chk=2

Graph: Mark the focal width points on the graph.