UDS

UNIVERSIDAD DEL SUROESTE

BIOMATEMATICAS

"ECUACION DE LA PARABOLA"

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A) $V(-2,-1)$ $F(0,-1)$

$k = -1$ $\quad h = -2$

$h + p = 0, \quad -2 + p = 0$

$p = +2$

$0 = x = h - p = -2 - 2 = -4 = x$

$(y-k)^2 = 4p(x-h)$

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

$(y+1)^2 = -8(x+2)$
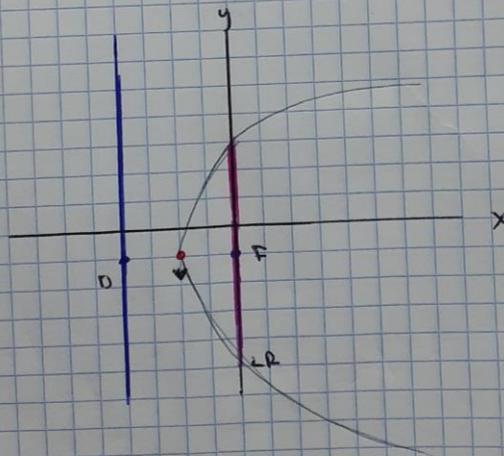
$(y+1)^2 = -8x - 16$

$y^2 + 2y(1) + 1^2 = -8x - 16$

$y^2 + 2y + 1 = -8x - 16$

$y^2 + 2y + 1 + 8x + 16 = 0$

$\boxed{y^2 + 8x + 2y + 17 = 0}$ ☐ Ecuacion

$LR = |4p| = 4(+2) = +8$

■ Vertice
☀ Foco
● Directiz
☆ LR

B) $F(0,-3)$ directriz $y=-1$ $V(0,-2)$

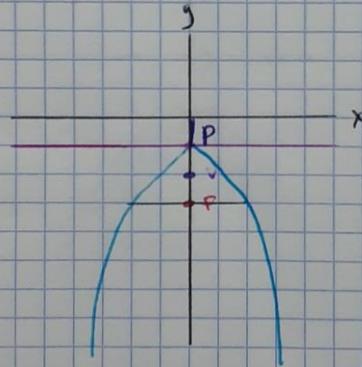$k=-2$ $h=0$ $p=1$

$(x-h)^2 = -4p(y-k)$
$(x-0)^2 = -4(1)(y-(-2))$
$x^2 = -4(y+2)$
$x^2 = -4y-2$
$x^2 + 4y + 2 = 0$

$LR = |4p| = 4(1) = 4$

☐ Ecuación

foco
directric
vertice
LR
P