

428: 11, 12, 27-28, 41, 51-58

11. $x^2 = 8(y-2)$ vertex = (0, 2) $p = 2$ (ground = 0)

focus is $2p$ from directrix, 4 ft.

12. $(x-6)^2 = 12(y-10)$ looking for focus \uparrow $p = 3$

focus (6, 13) vertex (6, 10)

the receiver is 3" above the vertex

27. $F(2, -1) V(-4, -1)$ $(y-k)^2 = 4p(x-h)$

~~$h = -4, k = -1, p = 6$~~ $(y+1)^2 = 24(x+4)$

28. $F(-3, -2) V(1, -2)$ $p = 4$

$h = 1, k = -2$ $(y+2)^2 = 16(x-1)$

29. $F(-3, 4) V(-3, 2)$ $(x-h)^2 = 4b(y-k)$

$h = -3, k = 2, p = 2$ $(x+3)^2 = 8(y-2)$

44. $F(-5, -9) \rightarrow$ contains (10, -1)

$$\begin{aligned} (y-k)^2 &= 4p(x-h) \\ (-1+9)^2 &= 4p(10-6p-5) \\ 64 &= 4p(15+p) \\ 64 &= 60p+4p^2 \\ 16 &= 15p+p^2 \\ p^2+15p-16 &= 0 \\ (p+16)(p-1) & \\ p &= -16 \quad p = 1 \end{aligned}$$

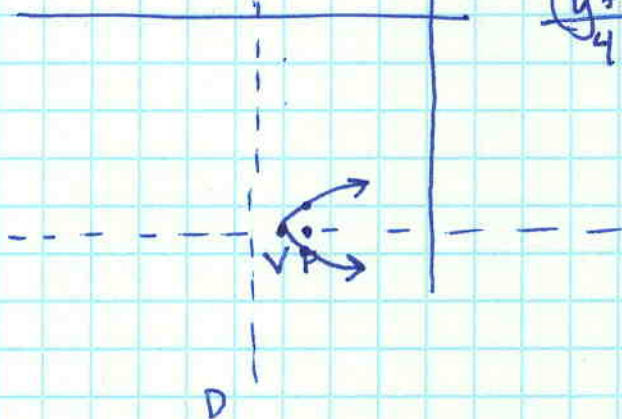
positive
Right
 \rightarrow

Vertex (-6, -9)
AS $y = -9$
D $x = -7$

$$\begin{aligned} -5 &= p+h \\ h &= -p-5 \quad k = -9 \\ p &= 1 \quad h = -1-5 \\ & \quad h = -6 \end{aligned}$$

$$\begin{aligned} (y+9)^2 &= 4(x+6) \\ \frac{(y+9)^2}{4} - 6 &= x \end{aligned}$$

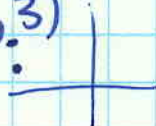
y	x
-7	-5
-11	-5



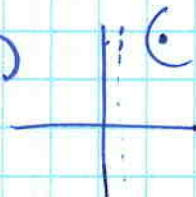
51. $d = y = 4$
 $p = -2$
opens down

52. $y^2 = -8(x-6)$
opens left

53. $V(-5, 1) F(-5, 3)$
opens up



54. focus $(7, 10)$
 $d = x = 1$
opens right



55. $V(3, 5) F(3, 4)$ $h=3, k=5, p=-1$
 $(x-3)^2 = -4(y-5)$

56. $d: x = 2$ $V(0, -4)$ $h=0, k=-4, p=2$
 $(y+4)^2 = 8(x-2)$

57. $d = x = -1$ $F(-9, 1)$ $h=-5, k=1, p=2$
 $(y-1)^2 = -8(x+5)$

58. $D = -12$ $F(2, -2) V(2, -7)$ $h=2, k=-7, p=5$
 $(x-2)^2 = 20(y+7)$