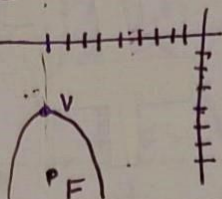


Sketch it!

Write an equation for the given the focus F and vertex V.

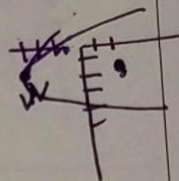
1. Focus: $(-9, -7)$; Vertex: $(-9, -4)$

$$(x + 9)^2 = 4(-3)(y + 4)$$



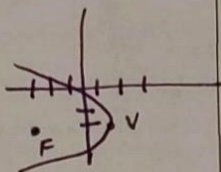
2. Focus: $(2, -1)$; Vertex: $(-2, -1)$

$$(y + 1)^2 = 4(6)(x + 4)$$



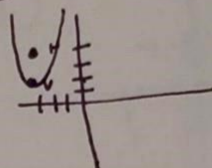
3. Focus: $(-3, -2)$; Vertex: $(1, -2)$

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



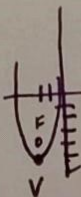
4. Focus: $(-3, 4)$; Vertex: $(-3, 2)$

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



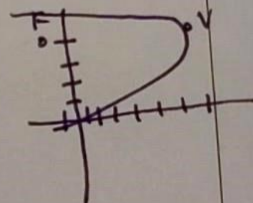
5. Focus: $(-2, -4)$; Vertex: $(-2, -5)$

$$(x + 2)^2 = 4(1)(y + 5)$$



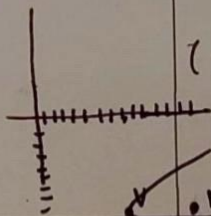
6. Focus: $(-1, 4)$; Vertex: $(7, 4)$

$$(y - 4)^2 = 4(-8)(x - 7)$$



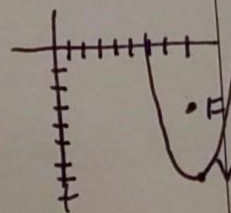
7. Focus: $(14, -8)$; Vertex: $(7, -8)$

$$(y + 8)^2 = 4(7)(x - 7)$$



8. Focus: $(8, -3)$; Vertex: $(8, -7)$

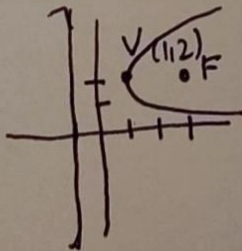
$$(x - 8)^2 = 4(4)(y + 7)$$



Write an equation for the given the focus F and directrix.

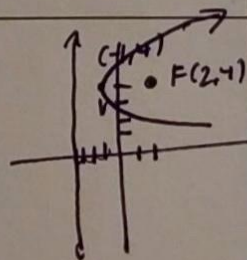
9. Focus: $(3, 2)$; directrix: $x = -1$

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



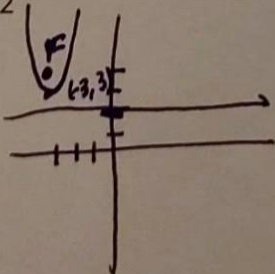
10. Focus: $(2, 4)$; directrix: $x = -4$

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



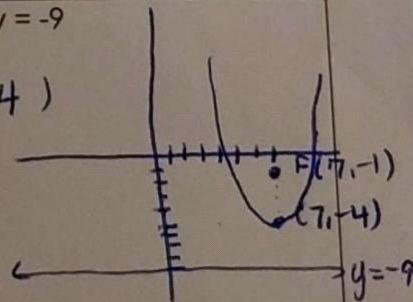
11. Focus: $(-3, 4)$; directrix: $y = 2$

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



12. Focus: $(7, -1)$; directrix: $y = -9$

$$(x - 7)^2 = 4(4)(y + 4)$$



Writing Equations of Parabolas

13. Focus: $(1, -12)$; directrix: $y = 2$

$$(x - 1)^2 = 4(-12)(y - 0)$$

14. Focus: $(-4, 3)$; directrix: $x = 2$

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

15. Focus: $(4, -2)$; directrix: $y = -8$

$$(x - 4)^2 = 4(3)(y + 5)$$

16. Focus: $(5, -1)$; directrix: $x = 3$

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