

For numbers 12 – 15, determine the orientation of each parabola.

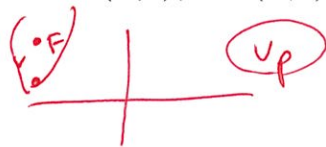
12. directrix $y = 4$, $p = -2$



13. $y^2 = -8(x - 6)$

Handwritten notes: $4p = -8 \Rightarrow p = -2$ (circled L)

14. vertex $(-5, 1)$, focus $(-5, 3)$

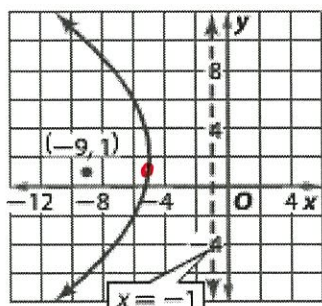


15. focus $(7, 10)$, directrix $x = 1$



For numbers 16 – 17, write the equation for each parabola.

16.

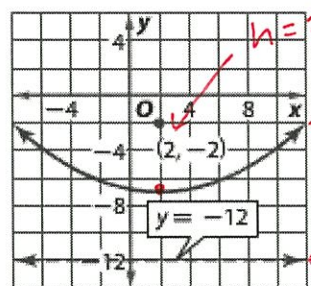


Handwritten notes: $k = 1$, $p = -4$, $h = -5$

Left!

Equation: $(y - 1)^2 = -16(x + 5)$

17.



Distance of 10, so $p = 5$

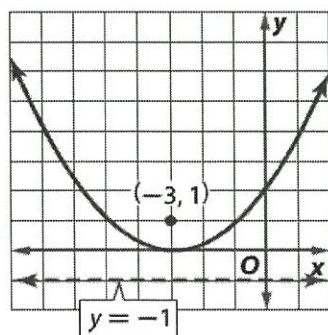
Up!

Then $k = -7$

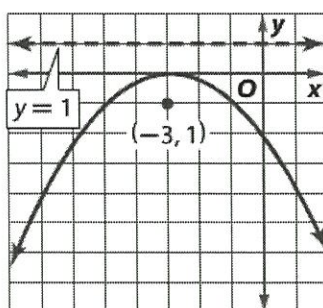
Equation: $(x - 2)^2 = 20(y + 7)$

19. Abigail and Jaden are graphing $x^2 + 6x - 4y + 9 = 0$. Is either of them correct? Explain your reasoning.

Abigail



Jaden



Handwritten equation: $x^2 + 6x + 9 = 4y - 9 + 9$

Handwritten equations: $(x + 3)^2 = 4y$ or $(x + 3)^2 = 4(y + 0)$

Handwritten notes: $v: (-3, 0)$ up!