PreCalculus
WS: 9.1

Name Key 2017
Date 2/22, 2/23 Block 82, 1A

Sketch the graph of the given equation and fill in the blanks for the given information.

1.) $(x+2)^2 = -12(y+1)$ $p = -3$

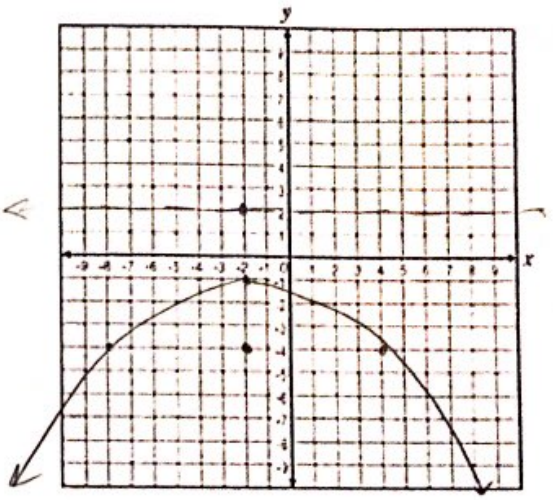
Coordinate of Vertex: $(-2, -1)$

Direction it opens: down

Axis of Symmetry: $x = -2$

Coordinates of Focus: $(-2, -4)$

Equation of Directrix: $y = 2$



2.) $(y+2)^2 = 16(x+3)$ $p = 4$

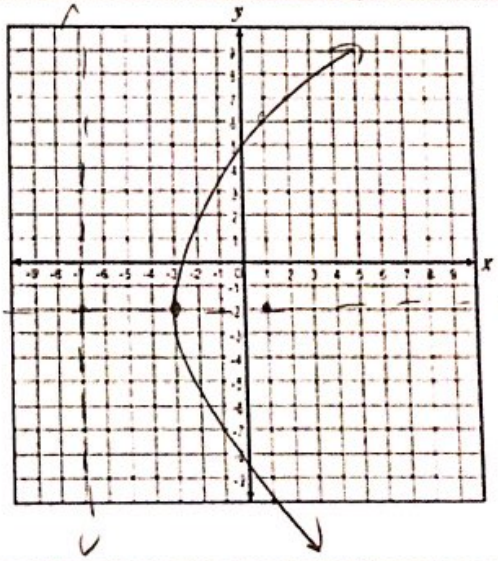
Coordinate of Vertex: $(-3, -2)$

Direction it opens: right

Axis of Symmetry: $y = -2$

Coordinates of Focus: $(1, -2)$

Equation of Directrix: $x = -7$



3.) $(y-1)^2 = 8(x+3)$ $p = 2$

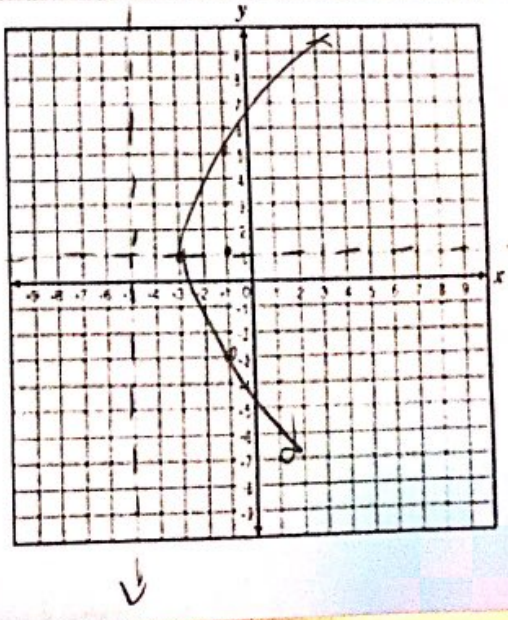
Coordinate of Vertex: $(-3, 1)$

Direction it opens: right

Axis of Symmetry: $y = 1$

Coordinates of Focus: $(-1, 1)$

Equation of Directrix: $x = -5$



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

$p = -\frac{1}{2}$

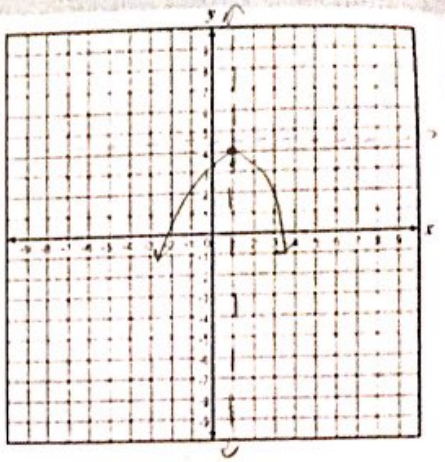
Coordinate of Vertex: $(1, 4)$

Direction it opens: down

Axis of Symmetry: $x = 1$

Coordinates of Focus: $(1, 3\frac{1}{2})$

Equation of Directrix: $y = 4\frac{1}{2}$



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

Coordinate of Vertex:

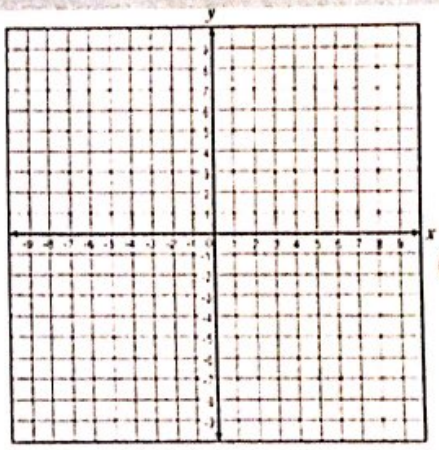
Direction it opens:

Axis of Symmetry:

Coordinates of Focus:

Equation of Directrix:

OOPS!



6.) $y^2 + 6y + 8x + 25 = 0$

$(y^2+6y+9) = -8x - 25 + 9$

$(y+3)^2 = -8(x+2)$

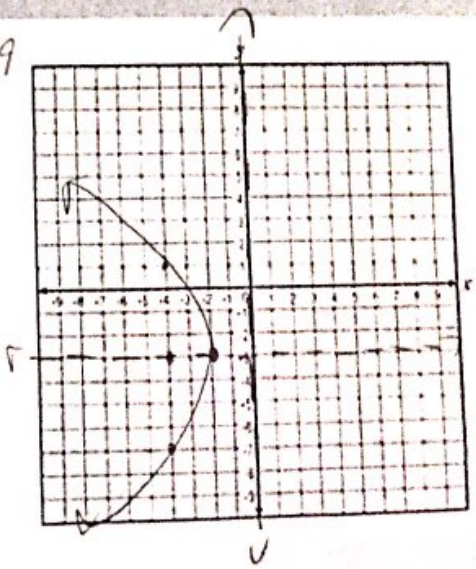
Coordinate of Vertex: $(-2, -3)$

Direction it opens: left

Axis of Symmetry: $y = -3$

Coordinates of Focus: $(-4, -3)$ $p = -2$

Equation of Directrix: $x = 0$



7) $x^2 - 2y + 8y + 9 = 0$

$x^2 - 2x + 1 = -8y - 9 + 1$

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

$p = -2$

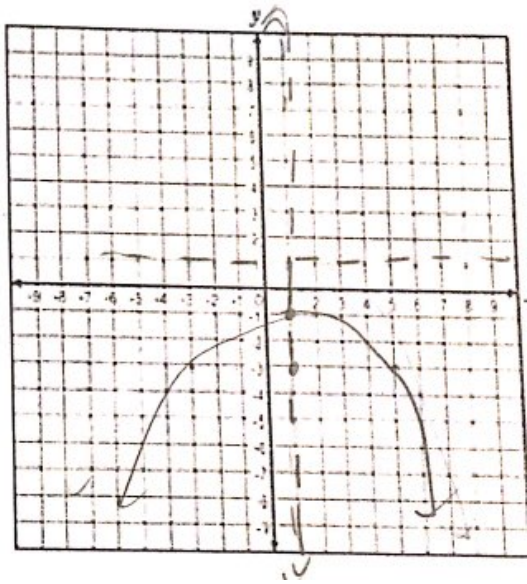
Coordinate of Vertex: $(1, -1)$

Direction it opens: down

Axis of Symmetry: $x = 1$

Coordinates of Focus: $(1, -3)$

Equation of Directrix: $y = 1$



8. $y^2 = -12x$

9. $(y + 4)^2 = 8(x + 4)$

10. $(x + 5)^2 = -12(y - 6)$

11. $(y - 3)^2 = -8(x - 4)$

12. $(x - 1)^2 = 16(y + 5)$

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

14. $(y - 1)^2 = -20(x - 5)$

15. $(y - 9)^2 = 4(x + 5)$