HW 3 - 6: Answers

Explain - Read your answer to your partner.

Does your partner think it is a good explanation?

1 - 3: Check with Partner

Aug 13-9:18 AM

Graph each of the parabolas given without the use of a calculator. Find and label all parts.

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

|4p| = 4 WIDTH

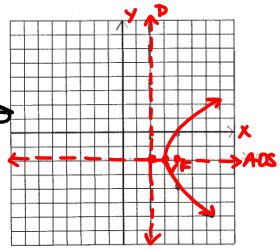
p = 1

Vertex: (3, -2)

Focus: (4, -2)

Directrix: x = 2

AOS: y = -2



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

|4p| = 2

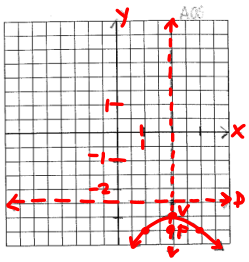
p = 1/2

Vertex: (2, -3)

Focus: (2, -7/2)

Directrix: y = -5/2

AOS: x = 2



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

|4p| = 8

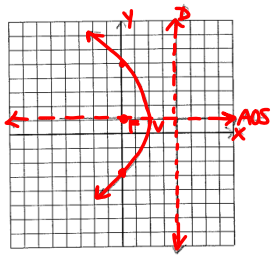
p = 2

Vertex: (2, 1)

Focus: (0, 1)

Directrix: x = 4

AOS: y = 1



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U3D6

More Parabolas

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Write the equations of the parabolas in standard form. Find all required parts and graph.

1. $x^2 - 4x - 4y + 8 = 0$ Vertex

$x^2 - 4x + \underline{4} = 4y - 8 + 4$

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

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

|4p| = |4| = 4

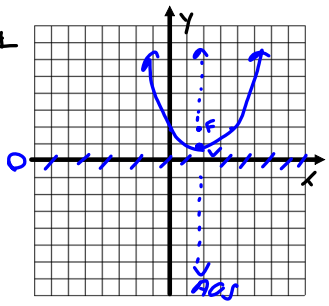
p = 1 4p = 4

Vertex: (2, 1)

Focus: (2, 2)

Directrix: y = 0

AOS: x = 2



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

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

$(y+3)^2 = -8x - 16$ GCF

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

$|4p| = |-8| = 8$ (width)

from focus

$4p = 8$

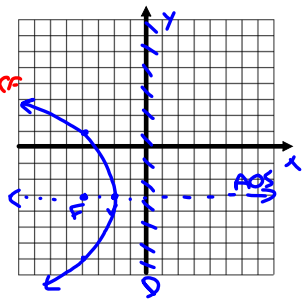
$p = 2$

Vertex: $(-2, -3)$

Focus: $(-4, -3)$

Directrix: $x = 0$

AOS: $y = -3$



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3. $y^2 - 4x - 4y - 8 = 0$

$|4p| =$ _____

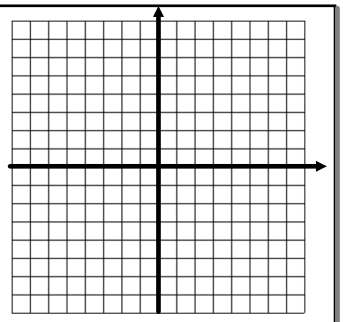
$p =$ _____

Vertex: _____

Focus: _____

Directrix: _____

AOS: _____



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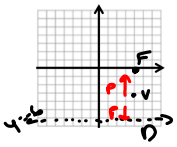
4. The directrix of the parabola $12(y + 3) = (x - 4)^2$ has the equation $y = -6$. Find the coordinates of the focus of the parabola. (from the A2CC Regents exam, 6/16)

$V(4, -3)$

$F(4, 0)$



5. Write the equation in vertex form then solve for y.

$x^2 - 4x - 16y - 12 = 0$

$+16y + 12 \quad +16y + 12$

$x^2 - 4x + 4 = 16y + 12 + 4$

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

$\frac{(x-2)^2}{16} = \frac{16(y+1)}{16}$

$\frac{(x-2)^2}{16} = y + 1$

$-1 \quad -1$

$y = \frac{(x-2)^2}{16} - 1$

Sep 9-9:57 PM