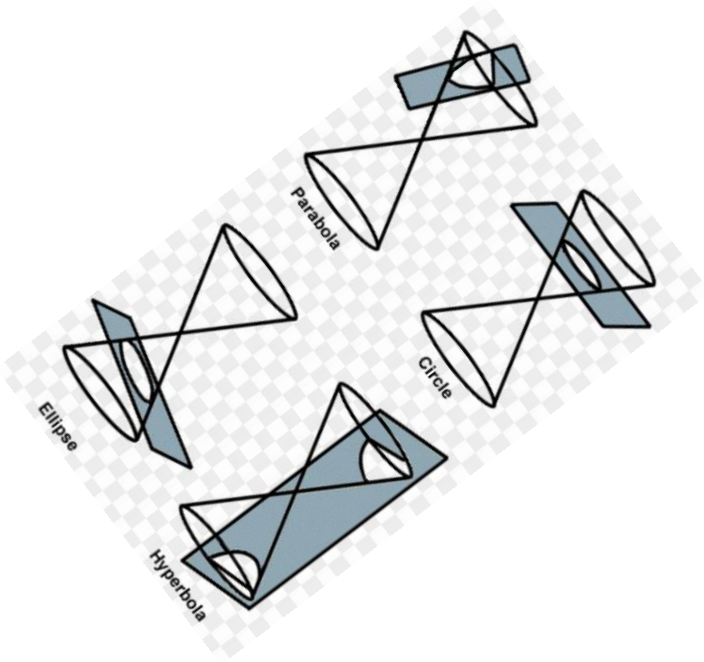
1A DOTTED LINES DOWN WHEN FOLDING 2nd HALF!

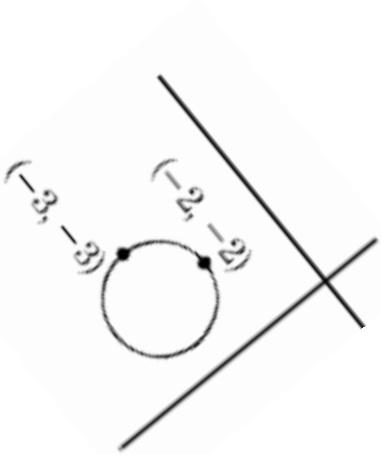


Circles

$(x-h)^2+(y-k)^2=r^2$

$(x+3)^2+(y-1)^2=81$

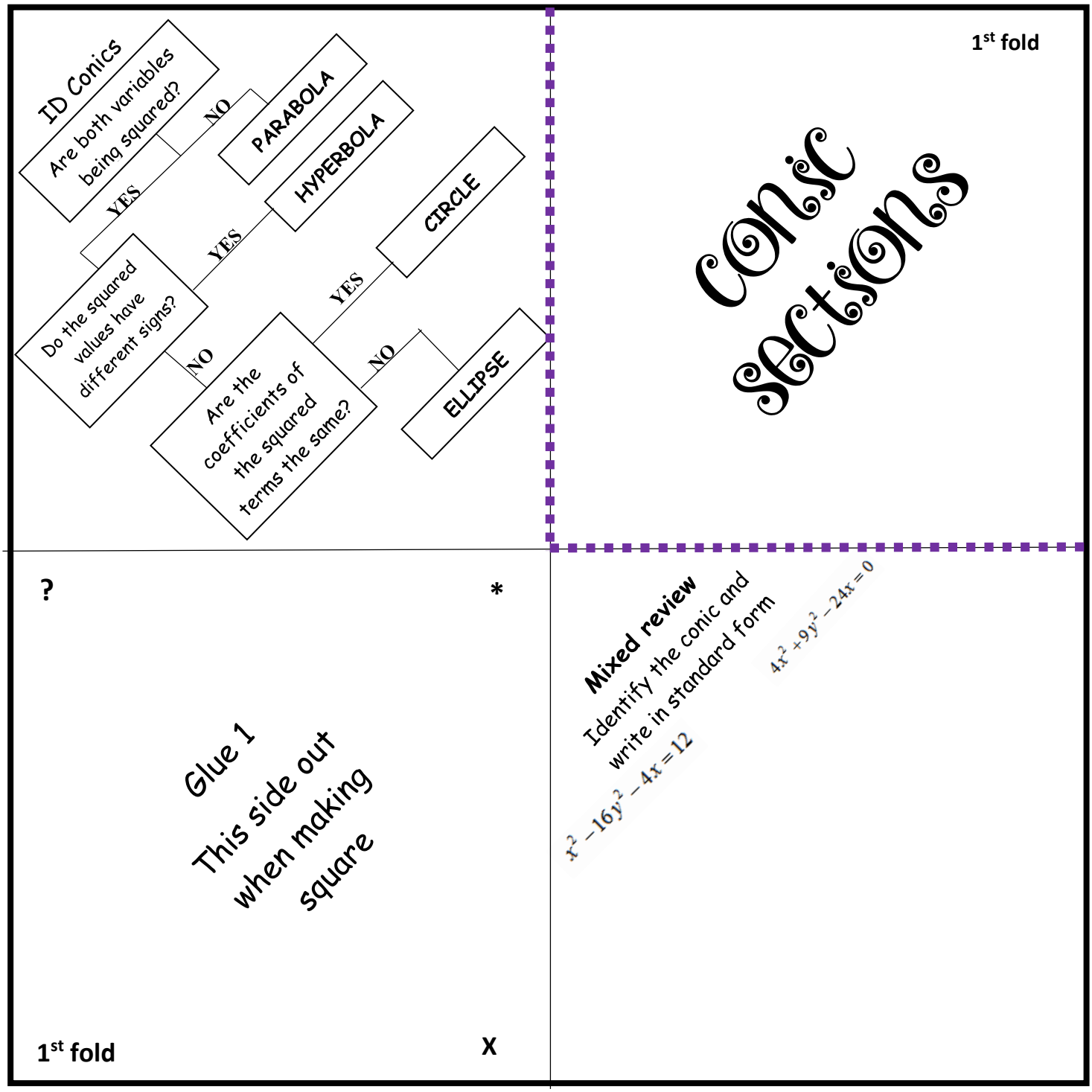
Write the equation of a circle with diameter end points (3,6) and (-5,2)



$x^2+y^2-10x-12y+45=0$

$3x^2+3y^2-6x+48y=168$

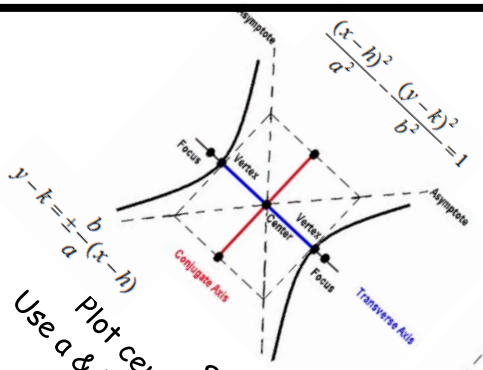
1B


ID Conics
Are both variables being squared?
NO
PARABOLA
YES
Do the squared values have different signs?
YES
HYPERBOLA
NO
Are the coefficients of the squared terms the same?
YES
CIRCLE
NO
ELLIPSE
1st fold
conic sections
?
*
Glue 1
This side out when making square
Mixed review
Identify the conic and write in standard form
$x^2 - 16y^2 - 4x = 12$
$4x^2 + 9y^2 - 24x = 0$
1st fold
X

2A

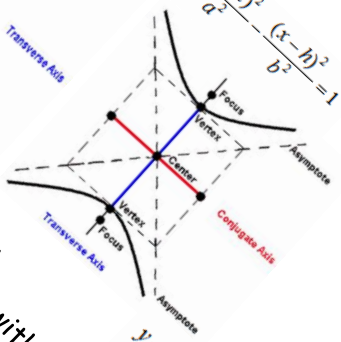
Hyperbolas

$c^2 = a^2 + b^2$



$\frac{(x-h)^2}{a^2} - \frac{(y-k)^2}{b^2} = 1$

$y - k = \pm\frac{b}{a}(x-h)$



$\frac{(y-k)^2}{a^2} - \frac{(x-h)^2}{b^2} = 1$

$y - k = \pm\frac{a}{b}(x-h)$

Steps to graph:

Plot center (remember x is with x)
Use a & b to plot vertices and co-vertices
Draw box and asymptotes
Determine up/down or L/R
Draw graph

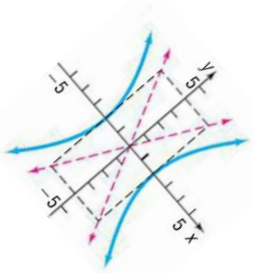
$\frac{(y-2)^2}{4} - \frac{(x+1)^2}{25} = 1$

Center
Vertices
Co-vertices
Foci
Slopes of Asymptotes
Domain
Range

$9x^2 - 16y^2 = 144$

Center
Vertices
Co-vertices
Foci
Slopes of Asymptotes
Domain
Range

Write the equation of a hyperbola with vertices (3,0) (-3,0) and foci (-4,0) (4,0)



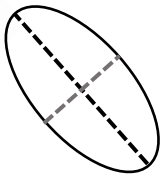
2B

Ellipses

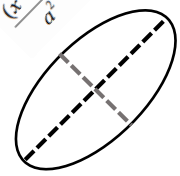
$a > b > 0$

$c^2 = a^2 - b^2$

$\frac{(x-h)^2}{b^2} + \frac{(y-k)^2}{a^2} = 1$



$\frac{(x-h)^2}{a^2} + \frac{(y-k)^2}{b^2} = 1$



Write in standard form, list foci, and graph

$(x-2)^2 + 9(y+4)^2 - 81 = 0$

$$ 1st fold XX

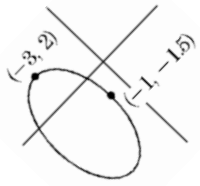
Glue 2
This side out when making square

?? **

? $

Glue 1
This side out when making square

Write the equation of an ellipse with a major axis of 8 and foci at (0,2) (0,-2)



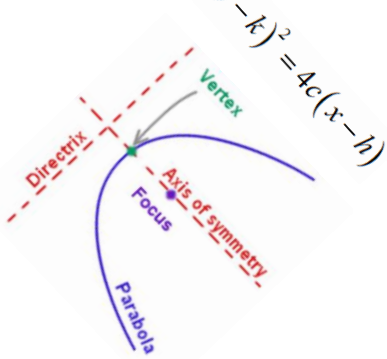
* 1st fold X

3A

Parabolas

$(x-h)^2 = 4c(y-k)$

$(y-k)^2 = 4c(x-h)$



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

Vertex

Value of c

Focus

Directrix

Axis of Sym

Domain

Range

$\frac{1}{12}(y-1)^2 + 3 = x$

Vertex

Value of c

Focus

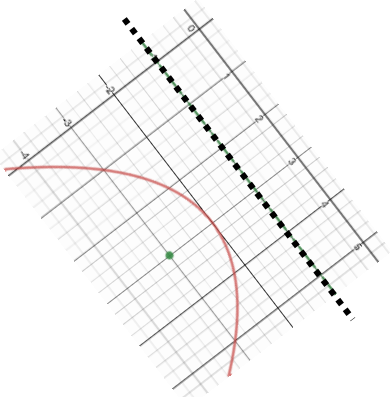
Directrix

Axis of Sym

Domain

Range

The graph $x = y^2$ is reflected over the y-axis and translated 3 units left and 7 units up. Write the equation of the new graph



3B

Additional Notes

$$

1st fold ??

Glue 2
This side out
when making
square

XX

**

Conic Formulas

	Horizontal	Vertical
Circle	$(x-h)^2+(y-k)^2=r^2$	
Parabola	$(x-h)^2=4p(y-k)$	$(y-k)^2=4p(x-h)$
Ellipse	$\frac{(x-h)^2}{a^2}+\frac{(y-k)^2}{b^2}=1$	$\frac{(y-k)^2}{a^2}+\frac{(x-h)^2}{b^2}=1$
Hyperbola	$\frac{(x-h)^2}{a^2}-\frac{(y-k)^2}{b^2}=1$	$\frac{(y-k)^2}{a^2}-\frac{(x-h)^2}{b^2}=1$

1st fold