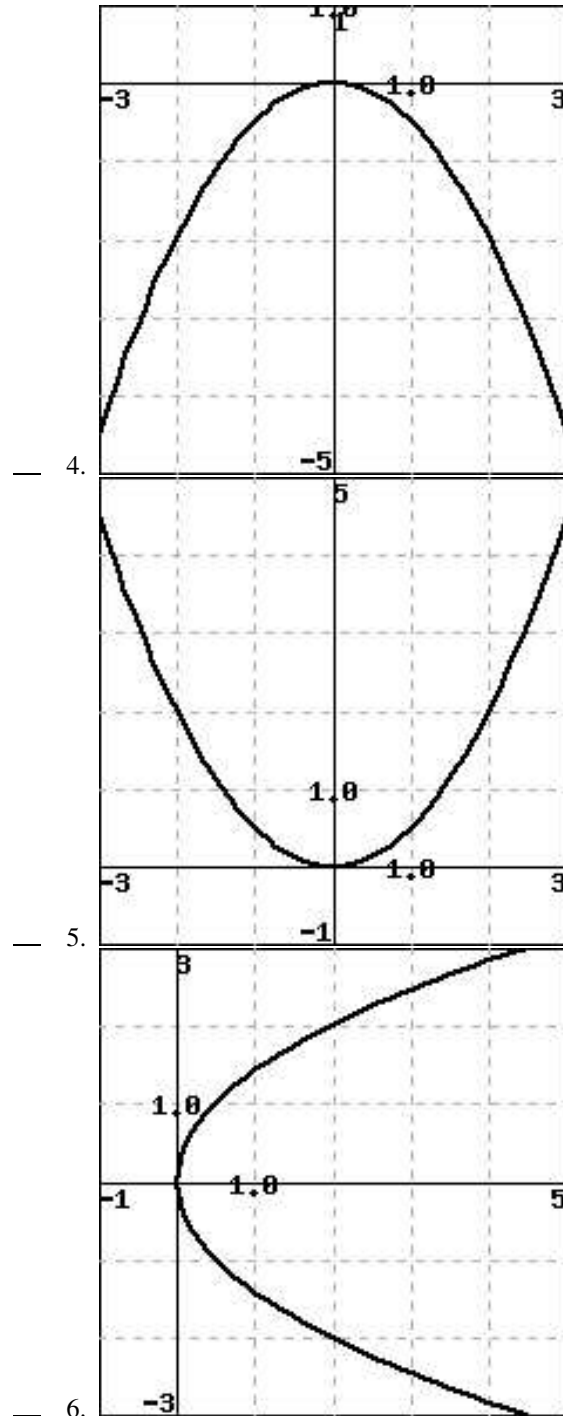
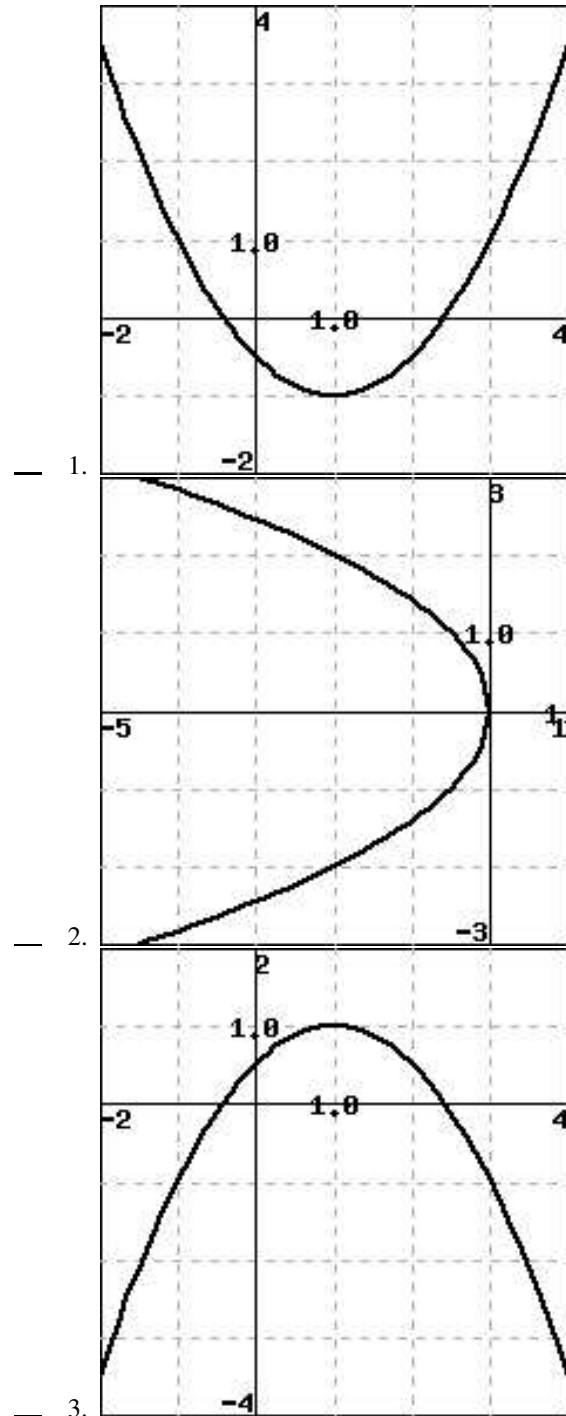


1.(1 pt)

Match each graph to its equation.

(For all graphs on this page, if you are having a hard time seeing the picture clearly, click on it. It will expand to a larger picture on its own page so that you can inspect it more closely.)



- A. $x^2 = -2y$
- B. $(x - 1)^2 = -2(y - 1)$
- C. $(x - 1)^2 = 2(y + 1)$
- D. $y^2 = 2x$
- E. $x^2 = 2y$
- F. $y^2 = -2x$

2.(1 pt) Find an equation of the parabola that has a focus at (5, 13) and a vertex at (5, 5):

$y =$ _____

Find an equation of its directrix:

$y =$ _____

3.(1 pt) Find the vertex, focus, and directrix for the following functions.

(a)

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

vertex : (_____ , _____)

focus : (_____ , _____)

directrix $x =$ _____

(b)

$$y^2 - 16y = 12x - 8^2$$

vertex : (_____ , _____)

focus : (_____ , _____)

directrix $x =$ _____

(c)

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

vertex : (_____ , _____)

focus : (_____ , _____)

directrix $y =$ _____

(d)

$$x^2 + 8x = 4y - 12$$

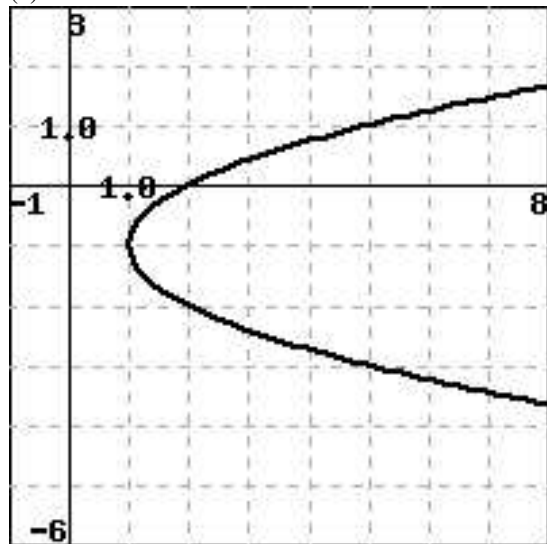
vertex : (_____ , _____)

focus : (_____ , _____)

directrix $y =$ _____

4.(1 pt) Write equations for each parabola (If you have a hard time seeing the picture clearly, click on the picture so that you can inspect it more closely.)

(a)



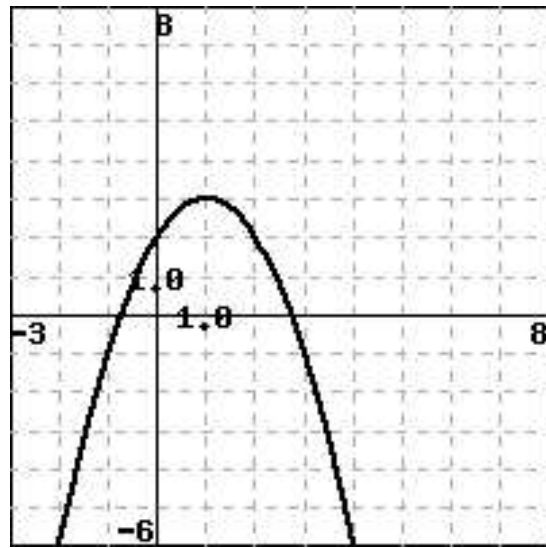
$$(y - K)^2 = A(x - H)$$

where $K =$ _____

where $H =$ _____

where $A =$ _____

(b)



$$(y - K)^2 = A(y - H)$$

where $K =$ _____

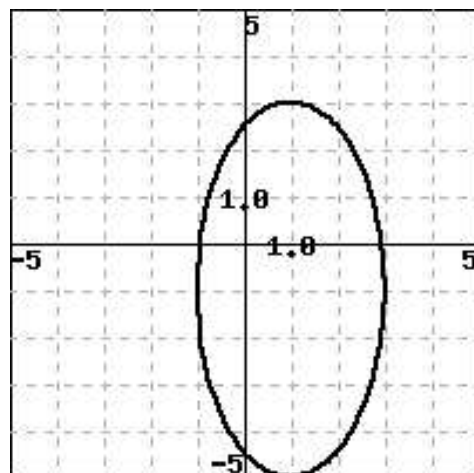
where $H =$ _____

where $A =$ _____

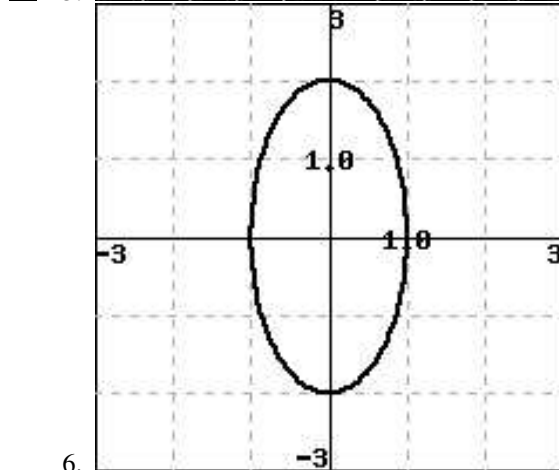
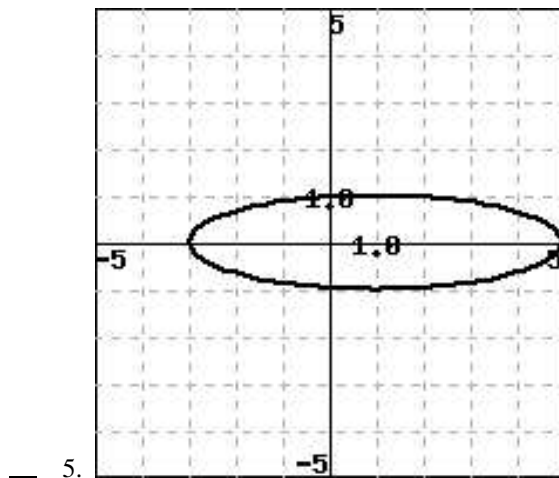
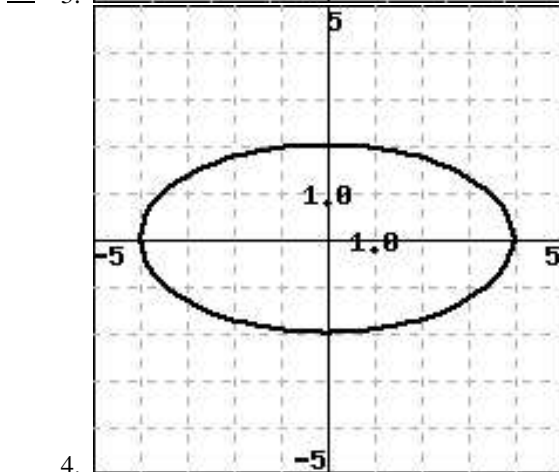
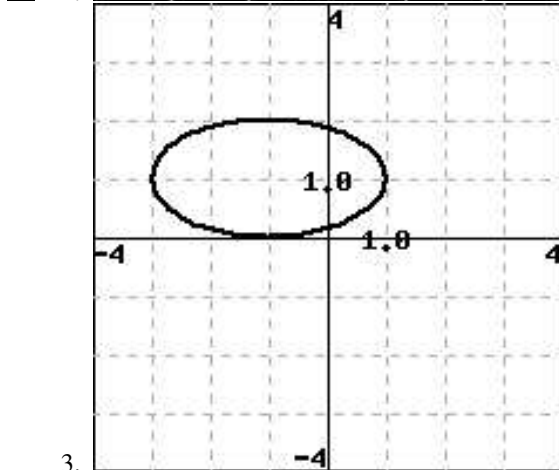
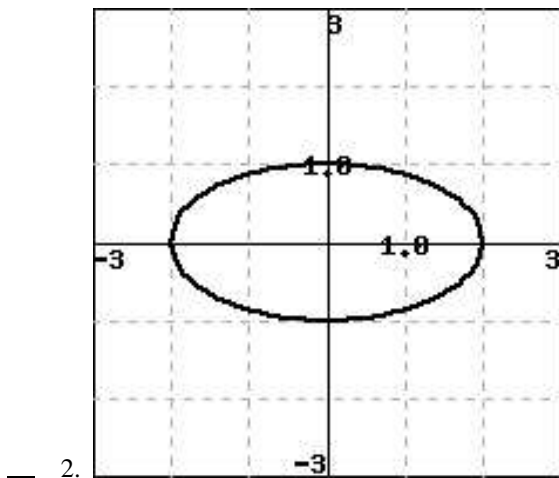
5.(1 pt)

Match each graph to its equation.

(For all graphs on this page, if you are having a hard time seeing the picture clearly, click on it. It will expand to a larger picture on its own page so that you can inspect it more closely.)



1.



- A. $\frac{(x+1)^2}{4} + (y-1)^2 = 1$
- B. $\frac{(x-1)^2}{16} + y^2 = 1$
- C. $x^2 + \frac{y^2}{4} = 1$
- D. $\frac{x^2}{16} + \frac{y^2}{4} = 1$
- E. $\frac{x^2}{4} + y^2 = 1$
- F. $\frac{(x-1)^2}{4} + \frac{(y+1)^2}{16} = 1$

6.(1 pt)

Find the center, vertices, and foci of each ellipse.

(a) $\frac{x^2}{49} + \frac{y^2}{16} = 1$

Center: (_____ , _____)

Right vertex: (_____ , _____)

Left vertex: (_____ , _____)

Top vertex: (_____ , _____)

Bottom vertex: (_____ , _____)

Right focus: (_____ , _____)

Left focus: (_____ , _____)

(b) $\frac{(x+11)^2}{9} + \frac{(y-17)^2}{81} = 1$

Center: (_____ , _____)

Right vertex: (_____ , _____)

Left vertex: (_____ , _____)

Top vertex: (_____ , _____)
 Bottom vertex: (_____ , _____)
 Top focus: (_____ , _____)
 Bottom focus: (_____ , _____)
 (c) $9x^2 + 16y^2 - 180x - 160y + 1156 = 0$
 Center: (_____ , _____)
 Right vertex: (_____ , _____)
 Left vertex: (_____ , _____)
 Top vertex: (_____ , _____)
 Bottom vertex: (_____ , _____)
 Right focus: (_____ , _____)
 Left focus: (_____ , _____)

7.(1 pt) The equation of the ellipse that has a center at (10, 8), a focus at (7, 8), and a vertex at (15, 8), is

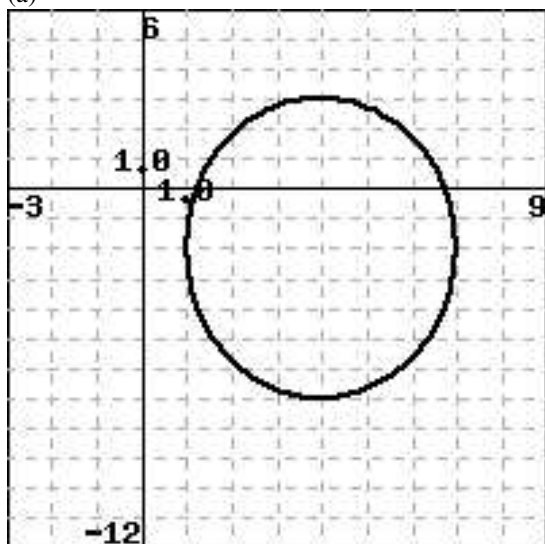
$$\frac{(x-C)^2}{A^2} + \frac{(y-D)^2}{B^2} = 1$$

where

A = _____
 B = _____
 C = _____
 D = _____

8.(1 pt) Write equations for each ellipse (If you have a hard time seeing the picture clearly, click on the picture so that you can inspect it more closely.)

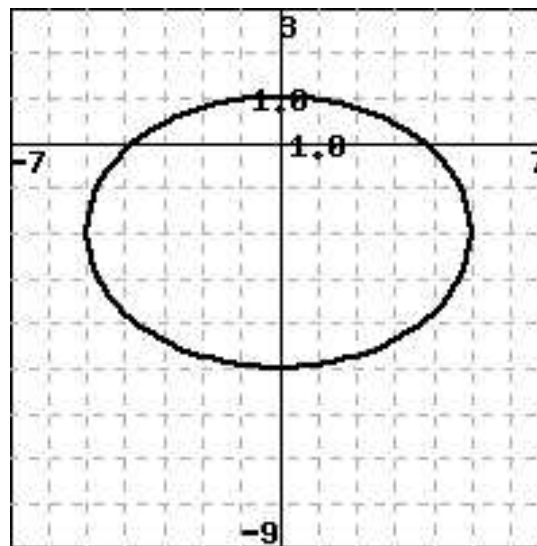
(a)



$$\frac{(y-A)^2}{B^2} + \frac{(x-C)^2}{D^2} = 1$$

where A = _____
 where B = _____
 where C = _____
 where D = _____

(b)



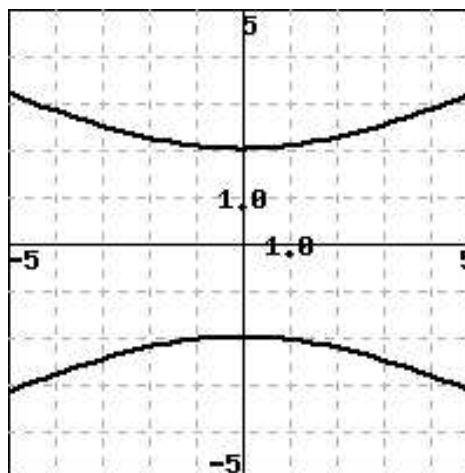
$$\frac{(y-A)^2}{B^2} + \frac{(x-C)^2}{D^2} = 1$$

where A = _____
 where B = _____
 where C = _____
 where D = _____

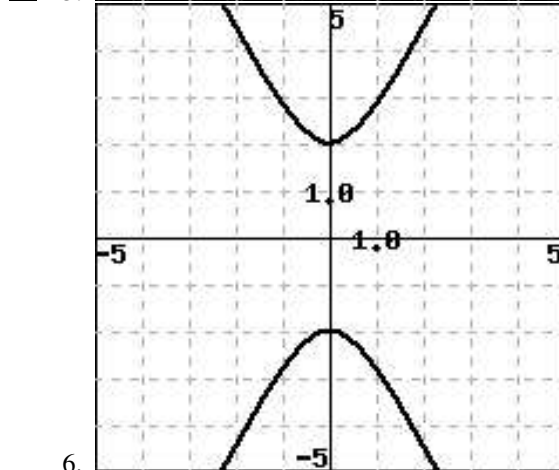
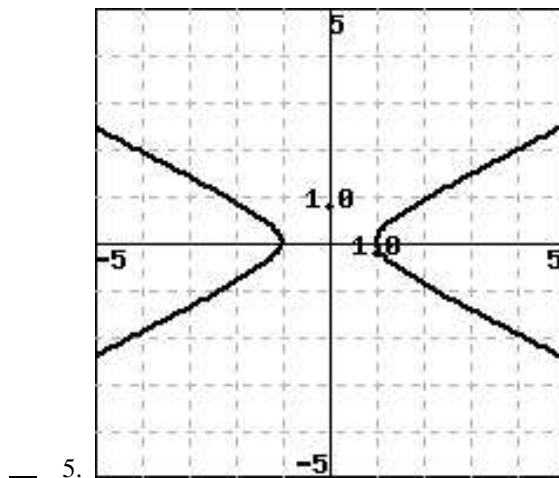
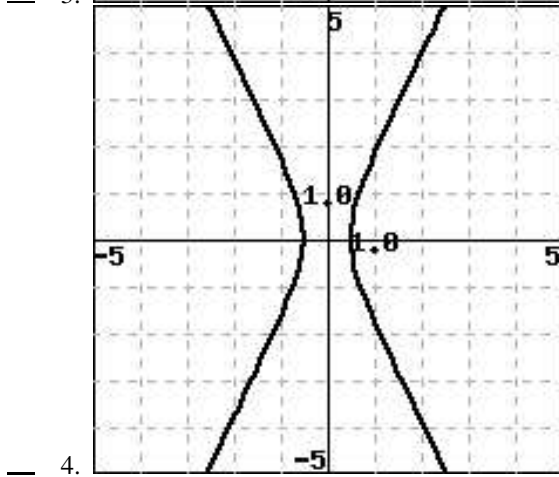
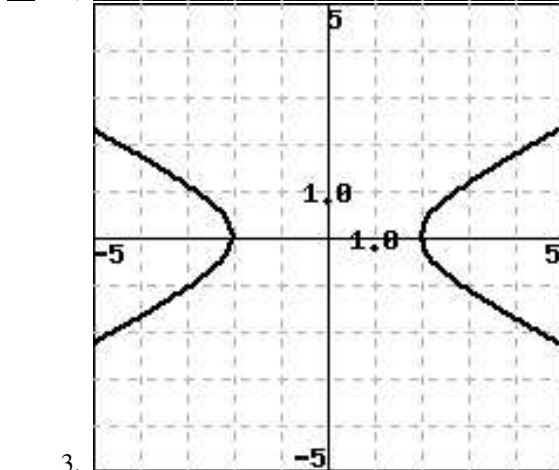
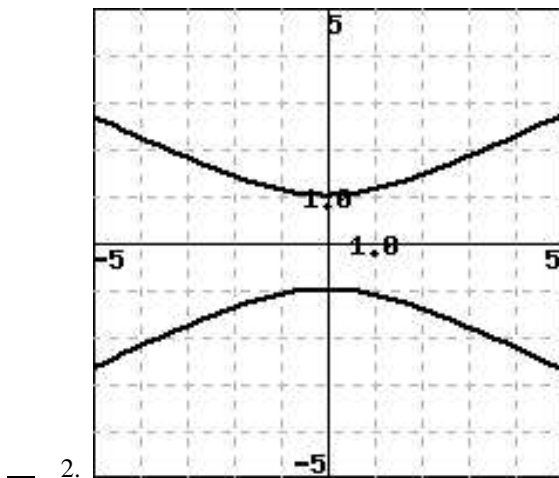
9.(1 pt)

Match each graph to its equation.

(For all graphs on this page, if you are having a hard time seeing the picture clearly, click on it. It will expand to a larger picture on its own page so that you can inspect it more closely.)



1.



- A. $\frac{y^2}{4} - \frac{x^2}{16} = 1$
- B. $x^2 - 4y^2 = 1$
- C. $\frac{x^2}{4} - y^2 = 1$
- D. $4x^2 - y^2 = 1$
- E. $\frac{y^2}{4} - x^2 = 1$
- F. $y^2 - \frac{x^2}{4} = 1$

10.(1 pt) The equation of the hyperbola that has a center at (4, 6), a focus at (-1, 6), and a vertex at (0, 6), is

$$\frac{(x - C)^2}{A^2} - \frac{(y - D)^2}{B^2} = 1$$

where

A = _____

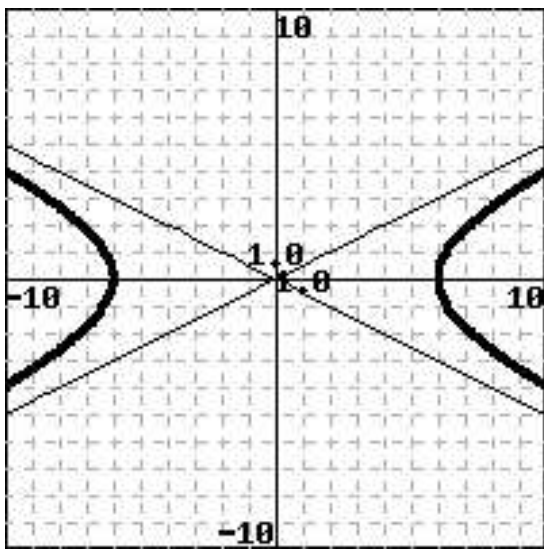
B = _____

C = _____

D = _____

11.(1 pt) Write equations for each hyperbola (If you have a hard time seeing the picture clearly, click on the picture so that you can inspect it more closely.)

(a)



$$\frac{(x-A)^2}{B^2} - \frac{(y-C)^2}{D^2} = 1$$

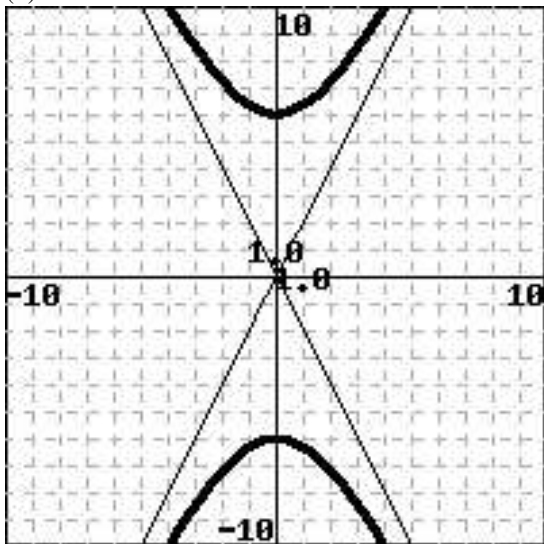
where $A =$ _____

where $B =$ _____

where $C =$ _____

where $D =$ _____

(b)



$$\frac{(y-A)^2}{B^2} - \frac{(x-C)^2}{D^2} = 1$$

where $A =$ _____

where $B =$ _____

where $C =$ _____

where $D =$ _____

12.(1 pt)

Solve the system by graphing each equation and finding the point of intersection.

$$\begin{cases} y = \frac{-12}{x+1} + 12 \\ y - 20 = (x-0)^2 \end{cases}$$

$x =$ _____

$y =$ _____

13.(1 pt) The parabola given by the equation $x = y^2 + 12y + 2$ has its vertex at (h,k) for:

$h =$ _____

and

$k =$ _____

14.(1 pt) The parabola given by the equation $y = -x^2 + 12x - 13$ has its vertex at (h,k) for:

$h =$ _____

and

$k =$ _____

15.(1 pt) The parabola given by the equation $x = -2y^2 + 24y - 83$ has its vertex at (h,k) for:

$h =$ _____

and

$k =$ _____

16.(1 pt) The parabola given by the equation $y = 3x^2 - 36x + 39$ has its vertex at (h,k) for:

$h =$ _____

and

$k =$ _____

17.(1 pt) The parabola given by the equation $2y - 9 = x^2 + 2x$ has its vertex at (h,k) for:

$h =$ _____

and

$k =$ _____

18.(1 pt) The parabola given by the equation $5x - 2y = y^2 + 16$ has its vertex at (h,k) for:

$h =$ _____

and

$k =$ _____

19.(1 pt) Match each equation for a parabola with the direction that the parabola opens.
IMPORTANT!! You only have 4 attempts to get this problem right!

— 1. $x = -5(y+3)^2 - 5$

— 2. $x = 5(y+3)^2 - 5$

— 3. $y = -5(x+3)^2 - 5$

— 4. $y = 5(x+3)^2 - 5$

A. up

B. right

C. down

D. left

20.(1 pt) Match each equation for a parabola with the direction that the parabola opens.

IMPORTANT!! You only have 4 attempts to get this problem right!

— 1. $x = \frac{1}{9}(y-2)^2 + 6$

— 2. $y = -\frac{1}{9}(x-2)^2 + 6$

— 3. $y = \frac{1}{9}(x-2)^2 + 6$

— 4. $x = -\frac{1}{9}(y-2)^2 + 6$

A. right

- B. up
- C. left
- D. down

21.(1 pt) Match each equation for a parabola with the direction that the parabola opens.

IMPORTANT!! You only have 4 attempts to get this problem right!

- 1. $y = -5(x - 3)^2 - 8$
- 2. $x = -5(y - 3)^2 - 8$
- 3. $x = 5(y - 3)^2 - 8$
- 4. $y = 5(x - 3)^2 - 8$

- A. up
- B. right
- C. left
- D. down

22.(1 pt) Match each equation for a parabola with the direction that the parabola opens.

IMPORTANT!! You only have 4 attempts to get this problem right!

- 1. $x = \frac{1}{8}(y + 4)^2 + 5$
- 2. $x = -\frac{1}{8}(y + 4)^2 + 5$
- 3. $y = -\frac{1}{8}(x + 4)^2 + 5$
- 4. $y = \frac{1}{8}(x + 4)^2 + 5$

- A. left
- B. right
- C. down
- D. up

23.(1 pt) $x^2 + y^2 + 10x - 6y - 15 = 0$ is the equation of a circle with center (h, k) and radius r for:

$h =$ _____
 and
 $k =$ _____
 and
 $r =$ _____

24.(1 pt) $x^2 + y^2 - 12x + 10y + 12 = 0$ is the equation of a circle with center (h, k) and radius r for:

$h =$ _____
 and
 $k =$ _____
 and
 $r =$ _____

25.(1 pt) $3x^2 + 3y^2 - 18x - 12y + 36 = 0$ is the equation of a circle with center (h, k) and radius r for:

$h =$ _____
 and
 $k =$ _____
 and
 $r =$ _____

26.(1 pt) $2x^2 + 2y^2 + 8x + 12y + 24 = 0$ is the equation of a circle with center (h, k) and radius r for:

$h =$ _____
 and
 $k =$ _____
 and
 $r =$ _____