

1.7: Graded Homework (part of Chapter 12)

Nicole Cook

● Question 1

✓ 0/1 pt ↻ 3 ⇌ 99

Write the equation of the circle centered at $(3, -8)$ with radius 7.

Enter your equation without a square root.

Question Help: [▶ Video](#) [✉ Message instructor](#)

● Question 2

✓ 0/1 pt ↻ 3 ⇌ 99

Write the equation of the circle centered at $(8, 5)$ with radius $\frac{3}{7}$.

Question Help: [▶ Video](#) [✉ Message instructor](#)

● Question 3

✓ 0/1 pt ↻ 3 ⇌ 99

Give the center and radius of the circle with the equation: $(x + 11)^2 + (y - 10)^2 = 8$

The center of the circle is: _____

The radius of the circle is:

Fully simplify the radius.

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● Question 4

✓ 0/1 pt ↻ 3 ⇌ 99

Find the standard form for the equation of a circle

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

with a diameter that has endpoints $(-5, -4)$ and $(3, -6)$.

$h =$

$k =$

$r =$

Question Help: [▶ Video](#) [✉ Message instructor](#)

● Question 5

✓ 0/1 pt ↻ 3 ⇄ 99

Write the equation of the circle centered at $(-4, -6)$ that passes through $(18, 18)$.

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● Question 6

✓ 0/1 pt ↻ 3 ⇄ 99

$3x^2 + 3y^2 - 6x - 30y + 51 = 0$ is the equation of a circle with center (h, k) and radius r for:

$h =$

and

$k =$

and

$r =$

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● Question 7

✓ 0/1 pt ↻ 3 ⇄ 99

Write the equation of the circle centered at $(9, -1)$ that passes through $(15, -2)$.

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● Question 8

✓ 0/1 pt ↻ 3 ⇄ 99

Determine the center and radius of a circle given that its equation is

$$x^2 - 8x + y^2 - 2y = -13$$

Use exact values.

Center: (,) Radius:

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● Question 9

✓ 0/1 pt ↻ 3 ⇄ 99

$2x^2 + 2y^2 + 12x + 12y - 14 = 0$ is the equation of a circle with center (h, k) and radius r for:

$h =$

and

$k =$

and

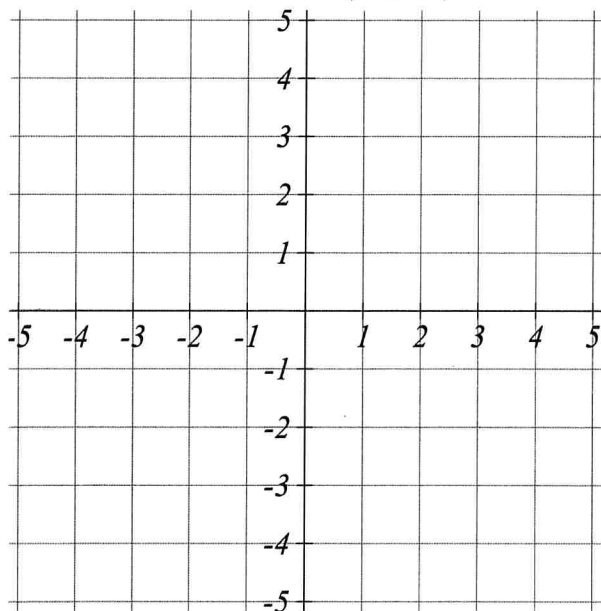
$r =$

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● Question 10

☒ 0/1 pt 3 99

Draw a circle with center $(-3, -2)$ and radius of 3.

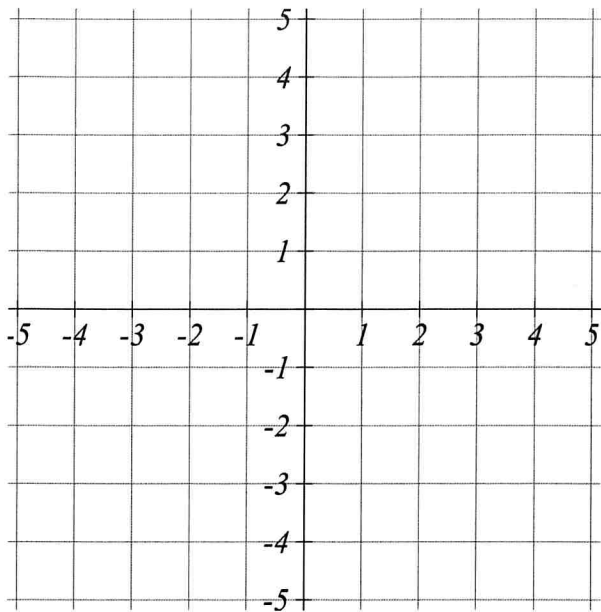


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● Question 11

☒ 0/1 pt 3 99

Draw a circle with an equation of $x^2 - 4x + y^2 + 2y = 4$.

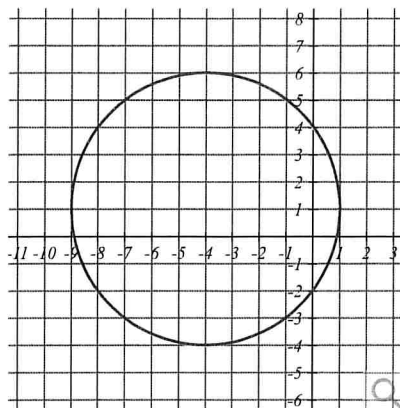


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● Question 12

✓ 0/1 pt ↻ 3 ↺ 99

Find the equation of the circle shown.



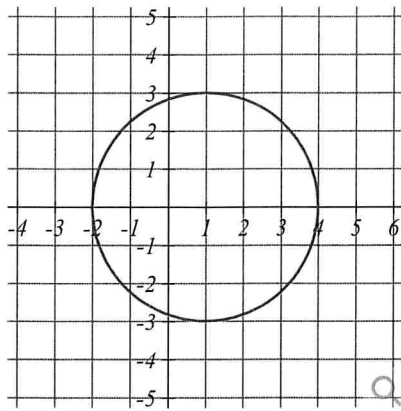
Write equation in standard form:

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● Question 13

✓ 0/1 pt ↻ 3 ↺ 99

Find the equation of the circle shown.



Write equation in standard form:

Question Help: ☒ Message instructor

● Question 14

☒ 0/1 pt 3 99

Consider the circle with equation $(x + 1)^2 + (y - 3)^2 = 5$

Find all points on the circle with y -coordinate 5. Enter **only the x - coordinate(s)**.

If there are more than one solutions, separate them with a comma. If there is no solution, enter DNE.

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12.1: Graded Homework

Nicole Cook

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● Question 1

✓ 0/1 pt ↻ 3 ⇄ 99

Answer the following True or False:
The foci always lie on the minor axis.

- ☐ True
☐ False

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● Question 2

✓ 0/1 pt ↻ 3 ⇄ 99

Answer the following True or False:

Let $\frac{(x-4)^2}{49} + \frac{(y-9)^2}{64} = 1$

be the equation of an ellipse, then the center of the ellipse is at the point (4, 9).

- ☐ True
☐ False

Question Help: ✉ Message instructor

● Question 3

✓ 0/1 pt ↻ 3 ⇄ 99

Answer the following True or False:

Let $\frac{(x-2)^2}{9} + \frac{(y-9)^2}{25} = 1$

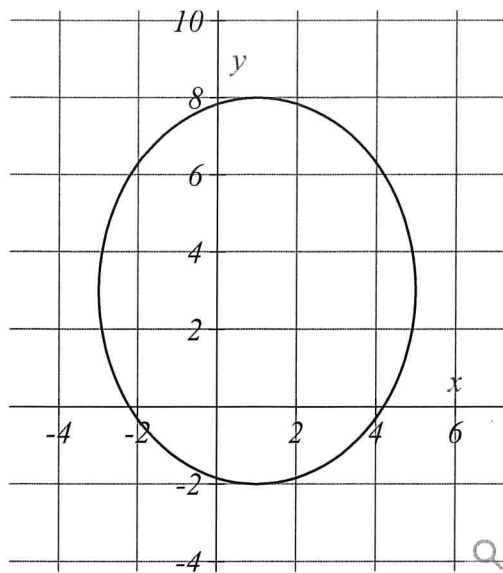
be the equation of an ellipse, then the major axis is parallel to the x-axis.

- ☐ True
☐ False

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● Question 4

✓ 0/1 pt ↻ 3 ⇄ 99



Identify a , b , h , and k for the ellipse graphed above and with an equation of the form:

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

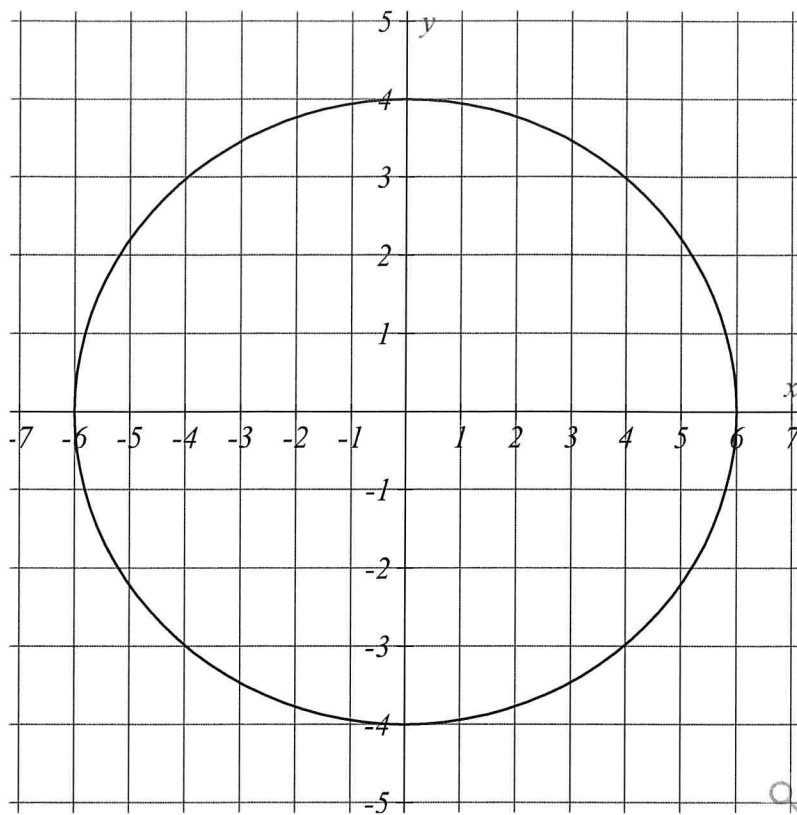
$a =$ _____ $b =$ _____

$h =$ _____ $k =$ _____

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● Question 5

☒ 0/1 pt 3 99



Identify a and b for the ellipse with equation $\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$.

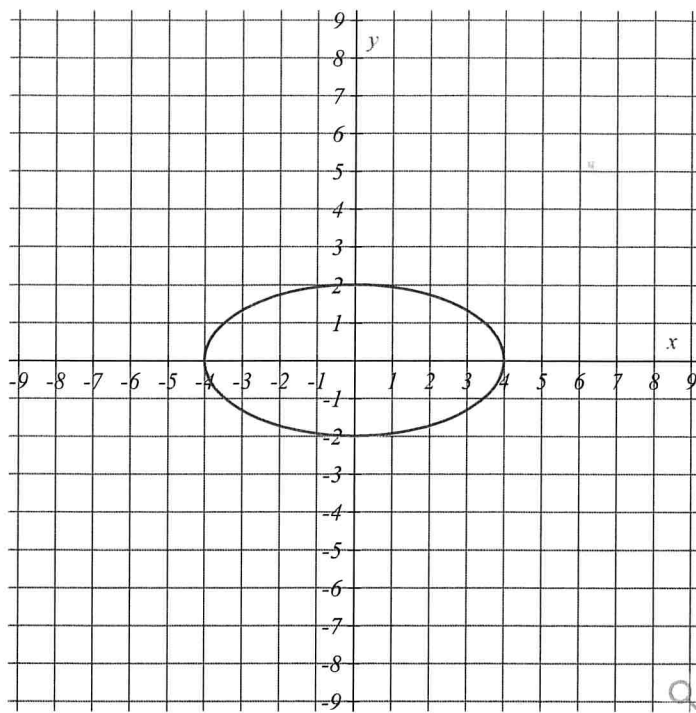
a = _____

b = _____

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● Question 6

 0/1 pt  3  99



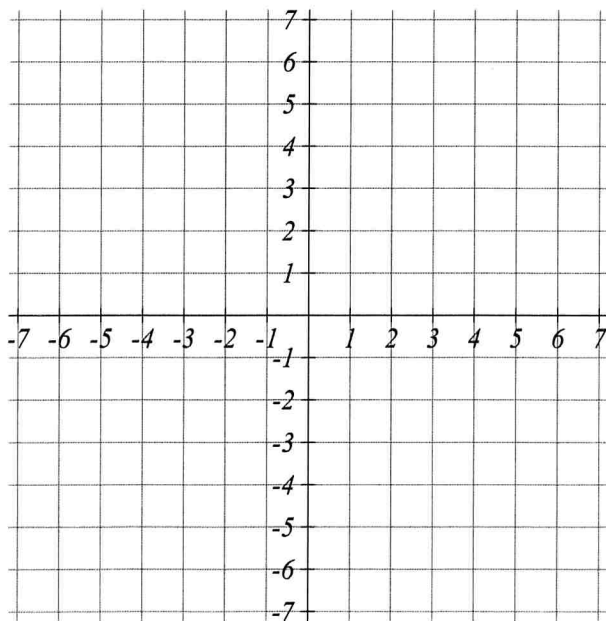
Write an equation for the ellipse graphed in standard form.

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● Question 7

0/1 pt 3 99

Sketch a graph of $\frac{(x+1)^2}{4} + \frac{(y-2)^2}{9} = 1$.

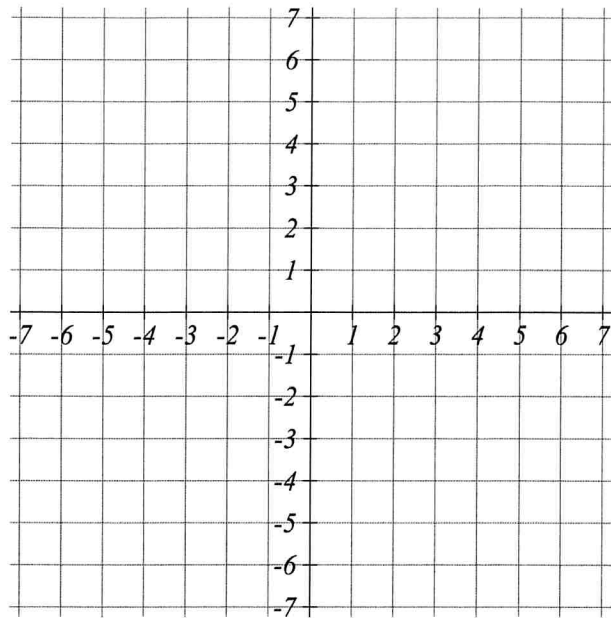


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● Question 8

0/1 pt 3 99

Sketch a graph of $\frac{x^2}{9} + \frac{y^2}{16} = 1$

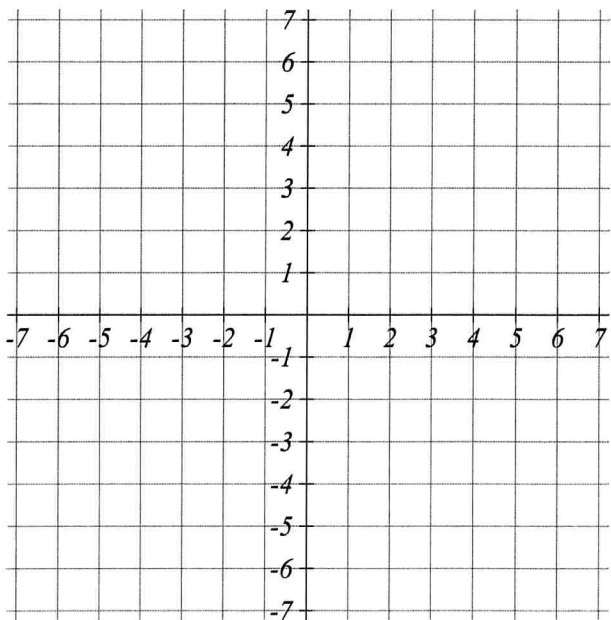


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● Question 9

✓ 0/1 pt ↻ 3 ↺ 99

Sketch a graph of $\frac{(x-1)^2}{1} + \frac{(y+1)^2}{9} = 1$



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● Question 10

✓ 0/1 pt ↻ 3 ↺ 99

Find the end points of the minor and major axis for the graph of the ellipse

$$\frac{(x-5)^2}{16} + \frac{(y-4)^2}{49} = 1$$

Maximum point on the major axis: _____

Minimum point on the major axis: _____

Maximum point on the minor axis: _____

Minimum point on the minor axis: _____

Maximum focal point:

Minimum focal point:

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● Question 11

☒ 0/1 pt 3 99

Let $\frac{x^2}{25} + \frac{y^2}{64} = 1$

then find the end points of the minor and major axis for the graph of this ellipse.

Maximum point on the major axis: _____

Minimum point on the major axis: _____

Maximum point on the minor axis: _____

Minimum point on the minor axis: _____

Maximum focal point:

Minimum focal point:

Question Help: ☒ Message instructor

● Question 12

☒ 0/1 pt 3 99

Given the ellipse $\frac{(x-6)^2}{4} + \frac{(y-4)^2}{9} = 1$

Find the center point: _____

List the two major vertices (separated by a comma): _____

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● Question 13

☒ 0/1 pt 3

The equation of the ellipse that has a center at $(1, 5)$, a focus at $(-2, 5)$, and a vertex at $(6, 5)$, is

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

where

$$A = \boxed{}$$

$$B = \boxed{}$$

$$C = \boxed{}$$

$$D = \boxed{}$$

Question Help: Video 1 Video 2 ☒ Message instructor

● Question 14

☒ 0/1 pt 3

Given the ellipse $\frac{(x - 4)^2}{4} + \frac{(y - 6)^2}{25} = 1$

a. Find the center point: _____

b. List the four vertices: _____

List your answers in ordered-pairs. For part b., separate each ordered-pair by using a comma, e.g., $(1, 2), (3, 4)$, etc.

Question Help: Video ☒ Message instructor

● Question 15

☒ 0/1 pt 3

$$\frac{(y - 5)^2}{49} + \frac{(x + 7)^2}{36} = 1$$

What is the length of the **minor** axis?

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12.2: Graded Homework

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✓ Question 1

✓ 1/1 pt ↺ 2 ↻ 99

The midpoint of the two foci of a hyperbola is the center of the hyperbola.

☒ True

☐ False



Question Help: [✉ Message instructor](#)

✓ Question 2

✓ 1/1 pt ↺ 1 ↻ 99

The transverse axis of the hyperbola does not intersect the hyperbola.

☐ True

☒ False



Question Help: [✉ Message instructor](#)

● Question 3

✓ 0/1 pt ↺ 3 ↻ 99

Determine if $\frac{x^2}{16} - \frac{y^2}{36} = 1$ is a hyperbola and if it is, which type it is. The transverse axis is

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

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

- ☐ Horizontal
☐ Vertical
☐ Not a Hyperbola

If it is a hyperbola, write the equation of the hyperbola in its standard form. If it is not a hyperbola, leave the rest blank.

h = _____

k = _____

a = _____

b = _____

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● Question 4

 0/1 pt  3  99

Determine if $25y^2 - 16x^2 = 1$ is a hyperbola and if it is, which type it is. The transverse axis is

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

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

- ☐ Horizontal
☐ Vertical
☐ Not a Hyperbola

If it is a hyperbola, write the equation of the hyperbola in its standard form. If it is not a hyperbola, leave the rest blank.

h = _____

k = _____

a =

b =

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● Question 5

 0/1 pt  3  99

Find the coordinates of the foci for the following hyperbola.

$$\frac{(y+7)^2}{64} - \frac{(x-6)^2}{36} = 1$$

(enter your answer as points separated by a comma e.g. $(2, 3 + \sqrt{5}), (2, 3 - \sqrt{5})$)

Question Help:  Message instructor

● Question 6

 0/1 pt  3  99

Find the center, vertices and foci of the hyperbola described by the following equation.

$$\frac{(y-3)^2}{25} - \frac{(x+1)^2}{4} = 1$$

Center: _____

Vertices:

Foci:

Question Help: ☒ Message instructor

● Question 7

☒ 0/1 pt 3 99

Identify the vertices and foci of the hyperbola with equation

$$\frac{y^2}{20^2} - \frac{x^2}{21^2} = 1$$

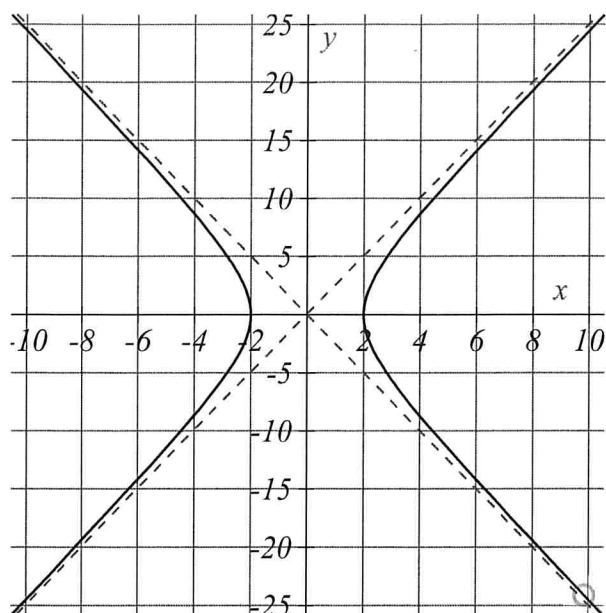
The vertices are

The foci are

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● Question 8

☒ 0/1 pt 3 99



Identify a and b for the hyperbola with equation $\frac{x^2}{a^2} - \frac{y^2}{b^2} = 1$.

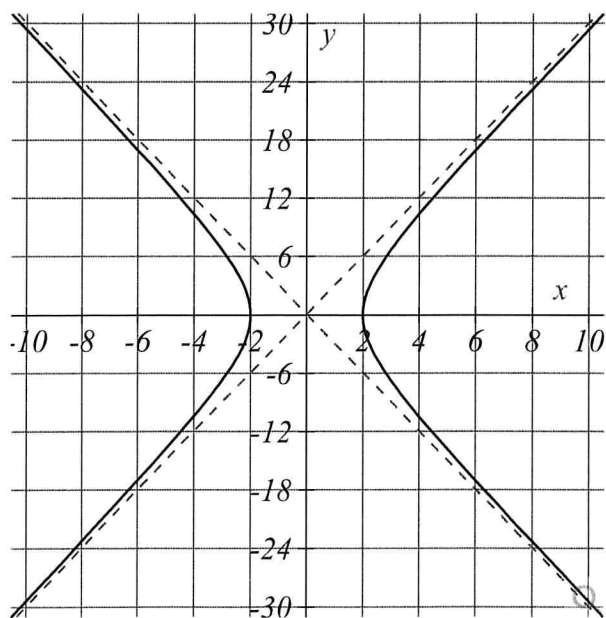
a = _____

b = _____

Question Help: ☐ Message instructor

● Question 9

☒ 0/1 pt 3 99



Identify a and b for the hyperbola with equation $\frac{x^2}{a^2} - \frac{y^2}{b^2} = 1$.

a = _____

b = _____

● Question 10

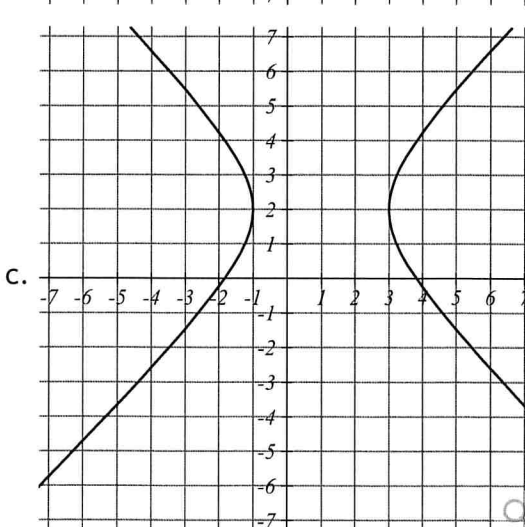
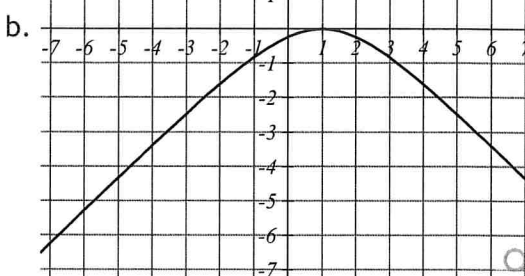
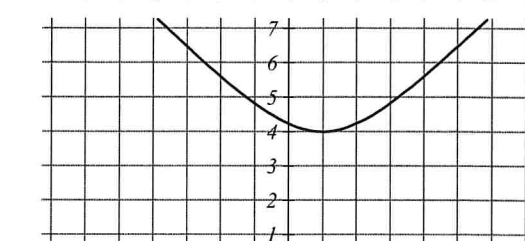
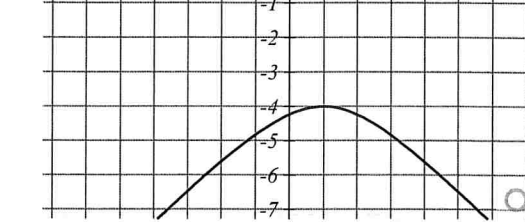
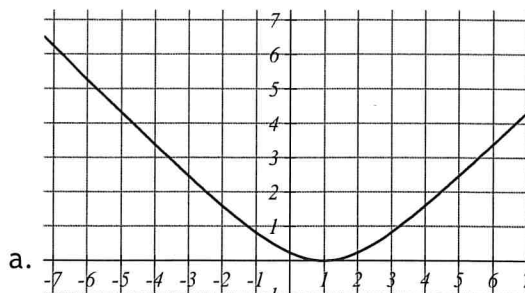
0/1 pt 3 99

Match the graphs to their equations

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

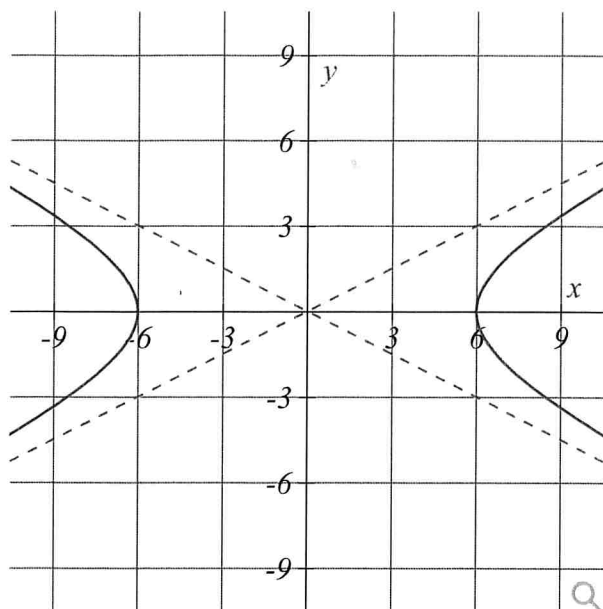
- $\frac{(x-1)^2}{4} - \frac{(y-2)^2}{4} = 1$

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



● Question 11

0/1 pt 3 99



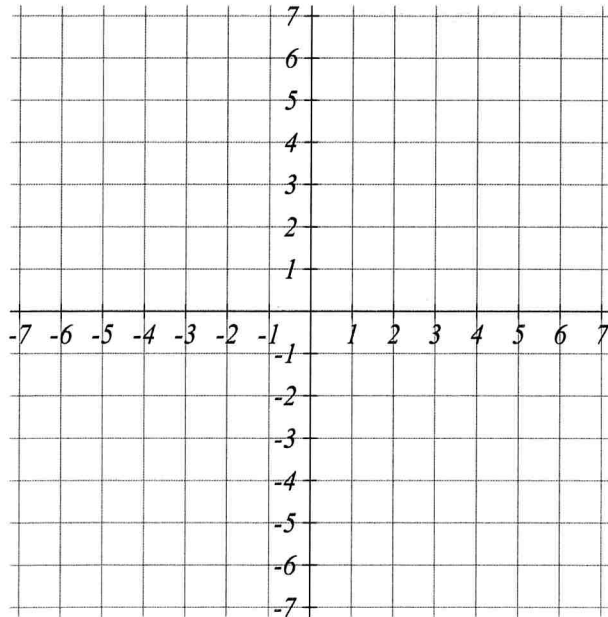
Write the standard equation for the hyperbola graphed above.

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● Question 12

0/1 pt 3 99

Sketch a graph of $x^2 - \frac{y^2}{9} = 1$.

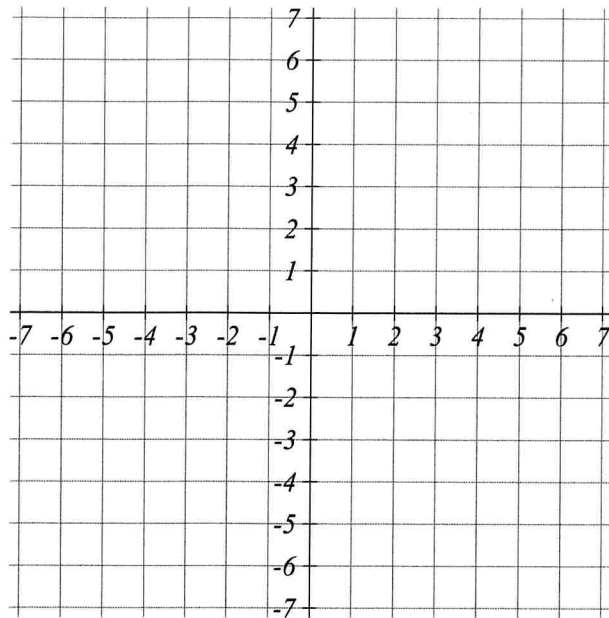


Question Help: [Message instructor](#)

● Question 13

0/1 pt 3 99

Sketch a graph of $x^2 - 9y^2 = 9$.



Question Help: ☐ Message instructor

● Question 14

☒ 0/1 pt 3 99

Find the standard form equation for a hyperbola with vertices at $(4, 0)$ and $(-4, 0)$ and asymptote

$$y = \frac{1}{2}x$$

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12.3: Graded Homework

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● Question 1

✓ 0/1 pt ↻ 3 ↺ 99

Determine whether the given equation is a parabola: $2x^2 + 5y^2 = 4$.

- ☐ Parabola
- ☐ Not a parabola

If it is a parabola, write the equation in standard form: $(y - k)^2 = 4p(x - h)$ or $(x - h)^2 = 4p(y - k)$.

Otherwise, leave the rest blank.

$h =$ _____

$k =$ _____

$p =$ _____

Question Help:  Message instructor

● Question 2

✓ 0/1 pt ↻ 3 ↺ 99

Determine whether the given equation is a parabola: $x^2 = 3 - y^2$.

- ☐ Parabola
☐ Not a parabola

If it is a parabola, write the equation in standard form: $(y - k)^2 = 4p(x - h)$ or $(x - h)^2 = 4p(y - k)$.

Otherwise, leave the rest blank.

$h =$ _____

$k =$ _____

$p =$ _____

Question Help:  Message instructor

● Question 3

 0/1 pt  3  99

Determine whether the given equation is a parabola: $x = 7y^2$.

- ☐ Parabola
☐ Not a parabola

If it is a parabola, write the equation in standard form: $(y - k)^2 = 4p(x - h)$ or $(x - h)^2 = 4p(y - k)$.

Otherwise, leave the rest blank.

$h =$ _____

$k =$ _____

$p =$

Question Help:  Message instructor

● Question 4

 0/1 pt  3  99

Determine whether this is a parabola: $(y + 2) = -3(x - 3)^2$.

- ☐ Parabola
☐ Not a parabola

If it is a parabola, write the equation in standard form: $(y - k)^2 = 4p(x - h)$ or $(x - h)^2 = 4p(y - k)$.

Otherwise, leave the rest blank.

$h =$ _____

$k =$ _____

$p =$

Question Help:  Message instructor

● Question 5

 0/1 pt  3  99

Find an equation for the parabola that has its vertex at the origin and has a focus at the point $(4.3, 0)$.

Enter your answer as an equation. Note: Answer should be exact...no rounding.

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● Question 6

 0/1 pt  3  99

Write the equation of a parabola whose directrix is $x = -6.5$ and has a focus at $(2.5, 8)$.

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● Question 7

 0/1 pt  3  99

Find the equation for the parabola that has its vertex at the origin and has directrix at $x = -\frac{1}{19}$.

equation is

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● Question 8

 0/1 pt  3  99

Find the focus, directrix, vertex and axis of symmetry for the parabola

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

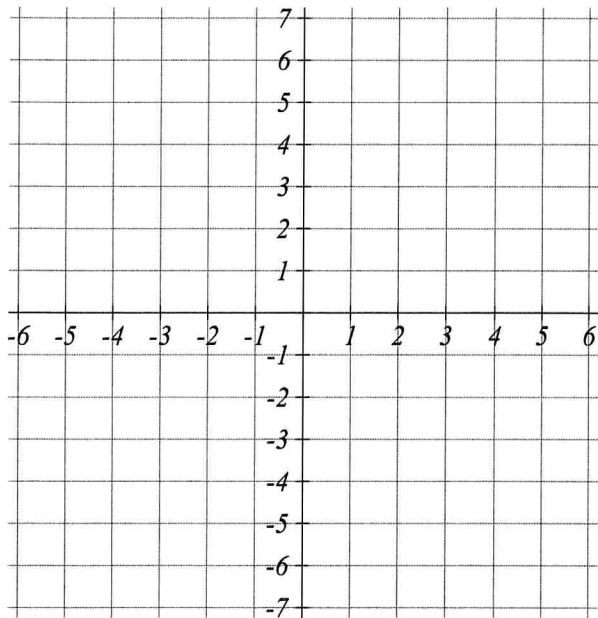
Focus =

Directrix =

Vertex =

Be sure to enter each answer in the appropriate format. Hint: What is the appropriate notation for a line or a point?

Graph the parabola. Include the directrix and focus with your graph.



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● Question 9

☒ 0/1 pt 3

Find the focus, directrix, focal diameter, vertex and axis of symmetry for the parabola:

$$16.4y = x^2$$

The focus is

The directrix is

The focal diameter is

The vertex is

The axis of symmetry is

Be sure to enter each answer in the appropriate format. Hint: What is the appropriate notation for a line or a point?

Question Help: [Video](#) [Message instructor](#)

● Question 10

✓ 0/1 pt ↻ 3 🔁 99

Find the focus, directrix, focal diameter, vertex and axis of symmetry for the parabola

$$-34.16x = y^2$$

Focus =

Directrix =

Focal diameter =

Vertex =

Axis of symmetry =

Be sure to enter each answer in the appropriate format. Hint: What is the appropriate notation for a line or a point?

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● Question 11

✓ 0/1 pt ↻ 3 🔁 99

Find the focus, directrix, focal diameter, vertex and axis of symmetry for the parabola

$$31.2y = x^2$$

Focus =

Directrix =

Focal diameter =

Vertex =

Axis of symmetry =

Be sure to enter each answer in the appropriate format. Hint: What is the appropriate notation for a line or a point?

Question Help: ☒ Message instructor

● Question 12

☒ 0/1 pt 3 99

Find the focus, directrix, focal diameter, vertex and axis of symmetry for the parabola

$$39.4y = x^2$$

Focus =

Directrix =

Focal diameter =

Vertex =

Axis of symmetry =

Be sure to enter each answer in the appropriate format. Hint: What is the appropriate notation for a line or a point?

Question Help: ☒ Message instructor

● Question 13

☒ 0/1 pt 3 99

Find the coordinates of the vertex and the focus for the parabola given by the following equation:

$$x^2 + 16x + 20y - 96 = 0$$

Round all answers to **2 places after the decimal point**, if necessary.

Coordinates of the **vertex**: (,)

Coordinates of the **focus**: (,)

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