

1. Work Space

Given: Foci  $(\pm 3, 0)$   
 vertices:  $(\pm 2, 0)$   
 Find the equation of the hyperbola

	Wager	Total
	<input style="width: 80px; height: 80px;" type="text"/>	<input style="width: 80px; height: 80px;" type="text"/>

2. Work Space

Foci  $(0, \pm 6)$   
 vertices  $(0, \pm 1)$   
 Find the eq. of the hyperbola.

	Wager	Total
	<input style="width: 80px; height: 80px;" type="text"/>	<input style="width: 80px; height: 80px;" type="text"/>

3. Work Space

vertices  $(4, 6)$   $(4, -2)$   
 co-vertices  $(6, 2)$   $(2, 2)$   
 Find the eq. of the ellipse

	Wager	Total
	<input style="width: 80px; height: 80px;" type="text"/>	<input style="width: 80px; height: 80px;" type="text"/>

4. Work Space

Write in standard form.  
 $9x^2 - 72x - y^2 + 8y = -119$

	Wager	Total
	<input style="width: 80px; height: 80px;" type="text"/>	<input style="width: 80px; height: 80px;" type="text"/>

5. Work Space

Write in standard form.  
 $16x^2 - 9y^2 - 72y = 288$

	Wager	Total
	<input style="width: 80px; height: 80px;" type="text"/>	<input style="width: 80px; height: 80px;" type="text"/>

6. Work Space

$y^2 - 6y - 4x^2 + 32x = 71$

	Wager	Total
	<input style="width: 80px; height: 80px;" type="text"/>	<input style="width: 80px; height: 80px;" type="text"/>

# Place Your Bets

7. Work Space

Vertex (1,3) (-9,3)

Co-vertices (-4,6) (-4,0)

Write the eq. of the ellipse.

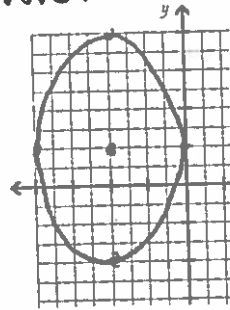
Wager

Total



8. Work Space

Find the equation of the ellipse.



Wager

Total



9. Work Space

Sketch the ellipse.

$$\frac{x^2}{49} + \frac{y^2}{25} = 1$$

Wager

Total



10. Work Space

Sketch the hyperbola.

$$\frac{(x-3)^2}{16} - \frac{(y+2)^2}{4} = 1$$

Wager

Total



11. Work Space

Wager

Total



12. Work Space

Wager

Total

1.

Work Space

$c = 3$   
 $a = 2$   
 $c^2 = a^2 + b^2$   
 $9 = 4 + b^2$   
 $5 = b^2$   
 $\frac{x^2}{4} - \frac{y^2}{5} = 1$

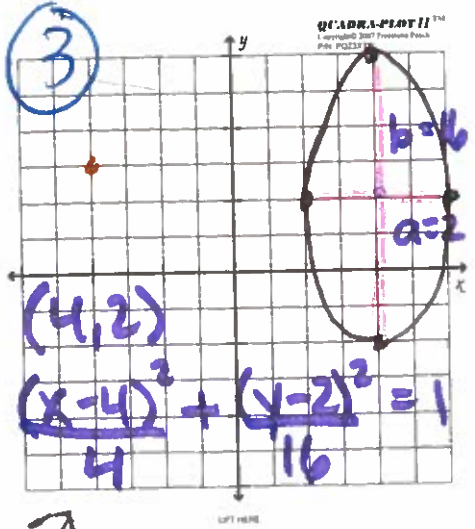
2.

Work Space

$a = 1$   
 $c = 6$   
 $c^2 = a^2 + b^2$   
 $36 = 1 + b^2$   
 $35 = b^2$   
 $\frac{y^2}{35} - \frac{x^2}{35} = 1$   
 $\frac{y^2}{a^2} - \frac{x^2}{b^2} = 1$   
 $\frac{x^2}{a^2} - \frac{y^2}{b^2} = 1$

Work Space

3.



(4, 2)

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

Wager

Total



Place Your Bets

4.

4.

$9\frac{x^2}{9} - \frac{72x}{9} - \frac{y^2}{9} + \frac{8y}{9} = -119$   
 $9(x^2 - 8x + 16) - (y^2 - 8y + 16) = -119 + 9(16) + 1(16)$   
 $\frac{9(x-4)^2}{9} - \frac{(y-4)^2}{9} = \frac{9}{9}$

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

5.

$16x^2 - 9(y^2 + 8y + 16) = 288 + -9(16)$   
 $\frac{16x^2}{144} - \frac{9(y+4)^2}{144} = \frac{144}{144}$

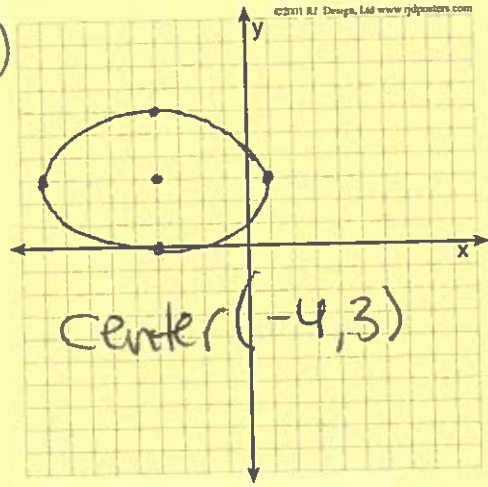
$\frac{x^2}{9} - \frac{(y+4)^2}{16} = 1$

# Place Your B

7

7. Work Space

$$\frac{(x+4)^2}{25} + \frac{(y-3)^2}{9} = 1$$



Center  $(-4, 3)$

8. Work Space

Center  $(-4, 2)$

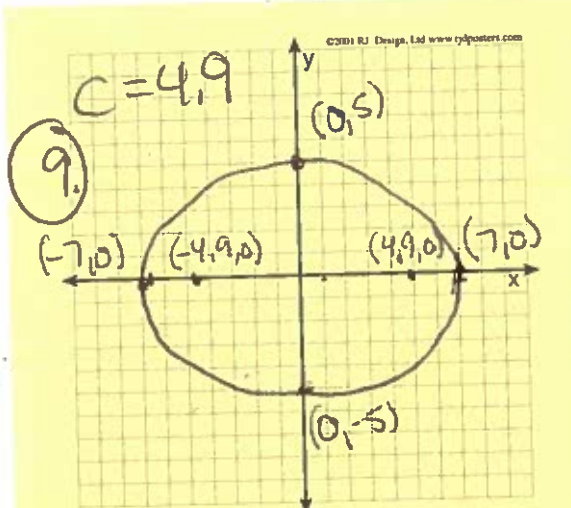
$$\frac{(x+4)^2}{16} + \frac{(y-2)^2}{36} = 1$$

9. Work Space

Center  $(0, 0)$

$a=7$

$b=5$



9

$c=4,9$

10. Work Space

Center

$(3, -2)$   $y = \pm \frac{2}{3}x$

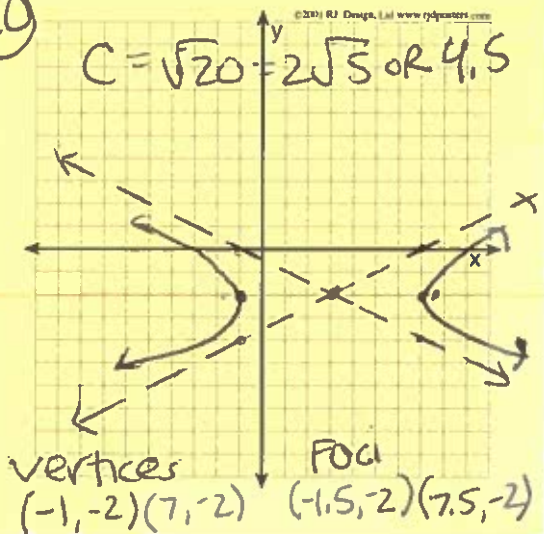
$a=4$   
 $b=2$

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

11. Work Space

10

$c = \sqrt{20} = 2\sqrt{5}$  or  $4,5$



vertices  $(-1, -2)$   $(7, -2)$

Foci  $(-1, 5, 2)$   $(7, 5, 2)$

12. Work Space

Wager

Total



Wager

Total



Wager

Total



Wager

Total