

Center (0, 0)

$$\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$$

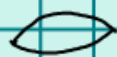
$$\frac{x^2}{25} + \frac{y^2}{4} = 1$$

$a=5$ $b=2$ $(-a, 0)$ $(a, 0)$

X



Major Axis longer
Minor Axis shorter



Foci

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

$$25 - 4 = c^2$$

$$\sqrt{21} = \sqrt{c^2}$$

$\pm 4.58 = c$

On Major Axis

x	y
2	1.83
-2	

$$\frac{4}{25} + \frac{y^2}{4} = 1$$

$$4 \cdot \frac{y^2}{4} = \frac{21}{25} \cdot 4$$

$$\sqrt{\frac{y^2}{1} = \frac{84}{25}}$$

$$y = \pm 1.83$$

Y

$$\frac{x^2}{9} + \frac{y^2}{16} = 1$$

$b=3$ $a=4$

Foci

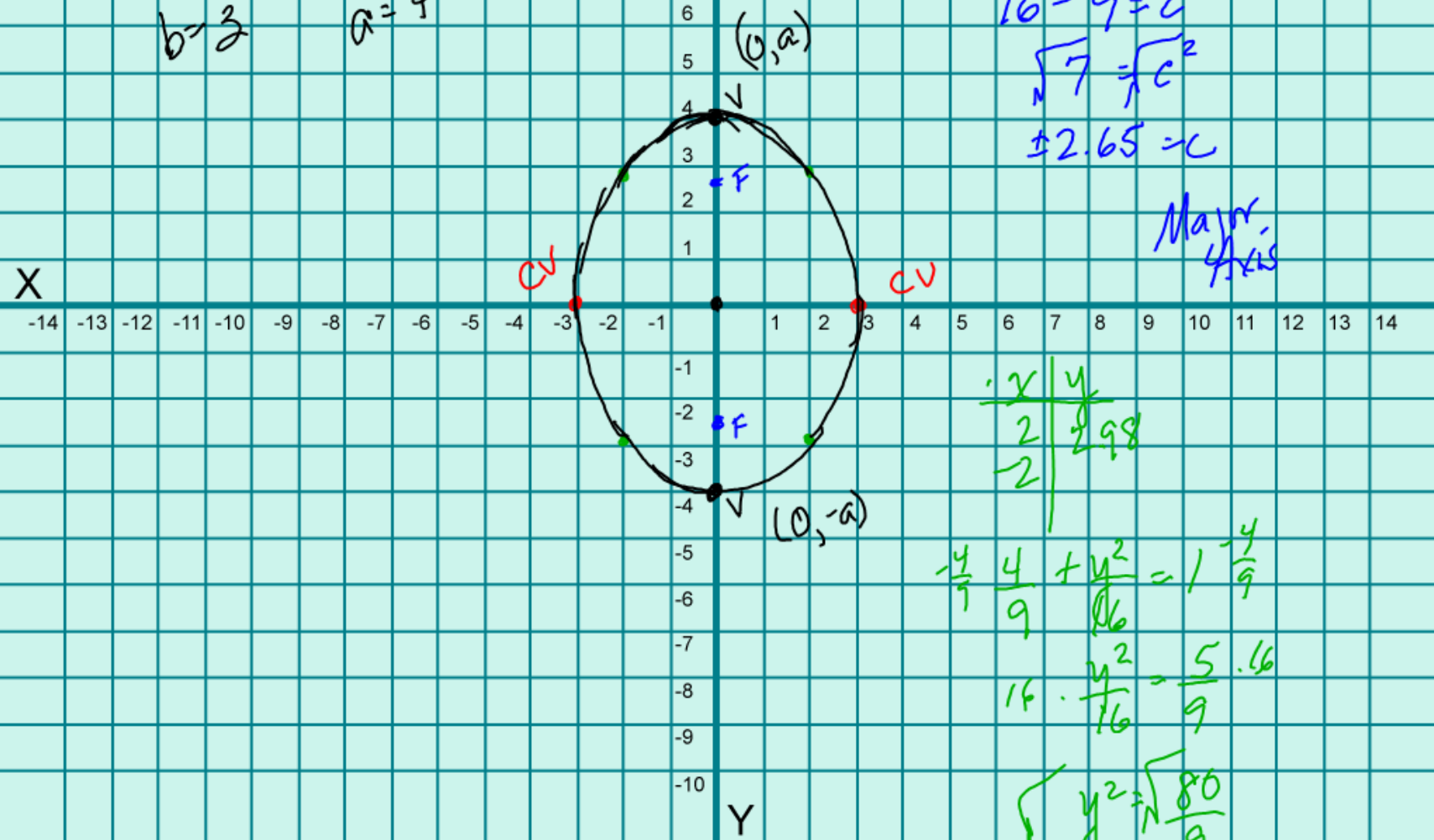
$$a^2 - b^2 = c^2$$

$$16 - 9 = c^2$$

$$\sqrt{7} = \sqrt{c^2}$$

$$\pm 2.65 = c$$

Major Axis



x	y
2	2.98
-2	2.98

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

$$16 \cdot \frac{y^2}{16} = \frac{5 \cdot 16}{9}$$

$$\sqrt{y^2} = \sqrt{\frac{80}{9}}$$

$$y = 2.98$$

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

Center (h, k)

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

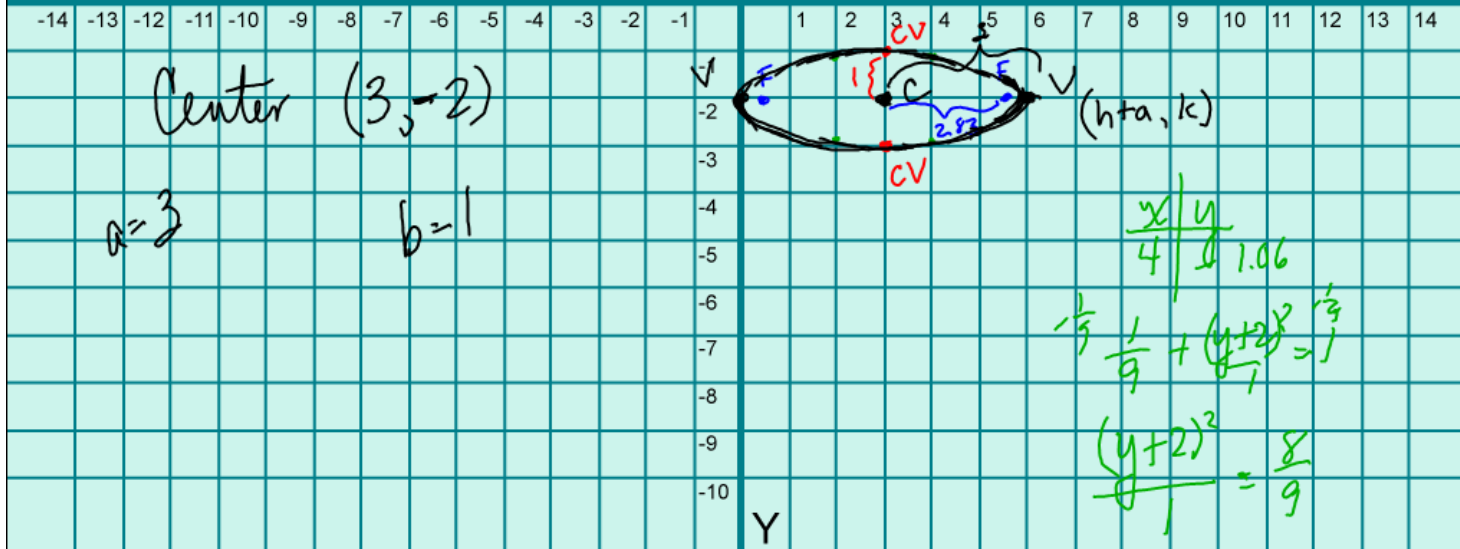
X

Center $(3, -2)$

$a=3$

$b=1$

Foci
 $a^2 - b^2 = c^2$
 $9 - 1 = c^2$
 $\sqrt{8} = \sqrt{c^2}$
 2.83



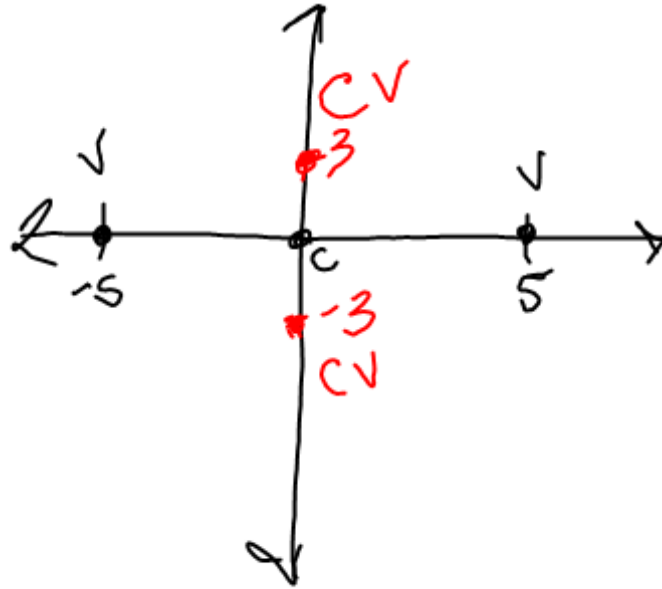
$\frac{x}{4} \mid y$
 $\frac{1}{9} + \frac{(y+2)^2}{1} = 1$
 $\frac{(y+2)^2}{1} = \frac{8}{9}$

$\sqrt{(y+2)^2} = \sqrt{\frac{8}{9}}$
 $y+2 = .94$
 $-2 \quad -2$
 $y = -1.06$

$$9. \quad \frac{x^2}{25} + \frac{y^2}{9} = 1$$

Center $(0, 0)$
Vertices
 $(5, 0)$
 $(-5, 0)$

Co Vertices
 $(0, 3)$
 $(0, -3)$



15 $\frac{3x^2}{12} + \frac{12y^2}{12} = \frac{12}{12}$

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

Foci
 $a^2 - b^2 = c^2$
 $4 - 1 = c^2$
 $\sqrt{3} = \sqrt{c^2}$
 $1.73 = c$

X

-14 -13 -12 -11 -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 1 2 3 4 5 6 7 8 9 10 11 12 13 14

10
9
8
7
6
5
4
3
2
1
-1
-2
-3
-4
-5
-6
-7
-8
-9
-10

Y

Vertices
 $(2, 0)$ $(-2, 0)$
 Covertices
 $(0, 1)$ $(0, -1)$

Foci
 $(1.73, 0)$
 $(-1.73, 0)$



23 Center (3, 3)

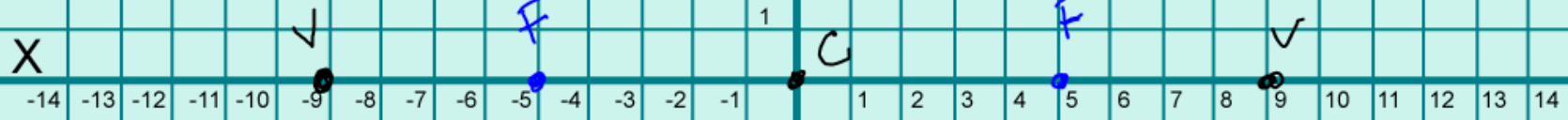
$$\frac{(x-3)^2}{4^2} + \frac{(y-3)^2}{3^2} = 1$$

$$\frac{(x-3)^2}{16} + \frac{(y-3)^2}{9} = 1$$

40.

$$\frac{x^2}{9^2} + \frac{y^2}{56} = 1$$

$$\frac{x^2}{81} + \frac{y^2}{56} = 1$$



$$p = 580$$

$$12 - 44 \times 4$$

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

$$81 - b^2 = 25$$

$$-81 - b^2 = -56$$

$$b^2 = 56$$

$$b = 7.48$$