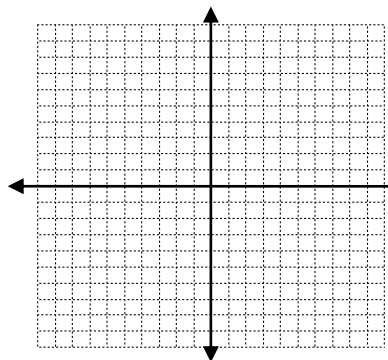


Graph the ellipse and identify the center, vertices, and foci.

1. $\frac{x^2}{16} + \frac{y^2}{4} = 1$



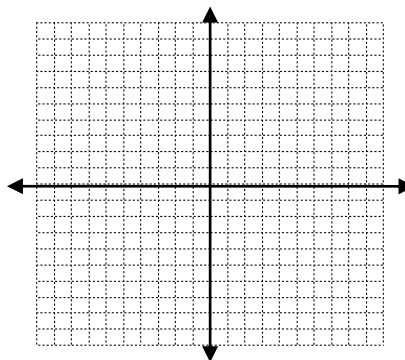
Center: _____

Vert: _____

CV: _____

Foci: _____

2. $\frac{x^2}{9} + \frac{y^2}{36} = 1$



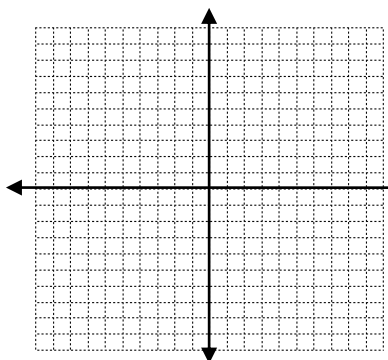
Center: _____

Vert: _____

CV: _____

Foci: _____

3. $25x^2 + 4y^2 = 100$



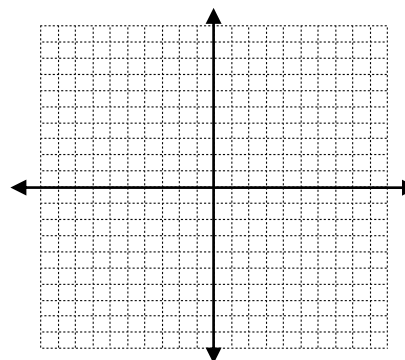
Center: _____

Vert: _____

CV: _____

Foci: _____

4. $7x^2 = 35 - 5y^2$



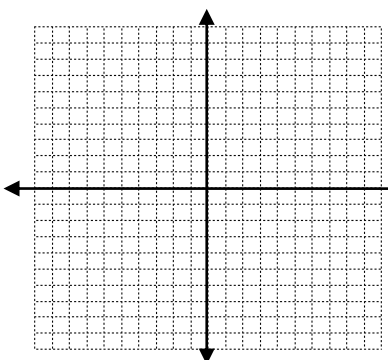
Center: _____

Vert: _____

CV: _____

Foci: _____

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



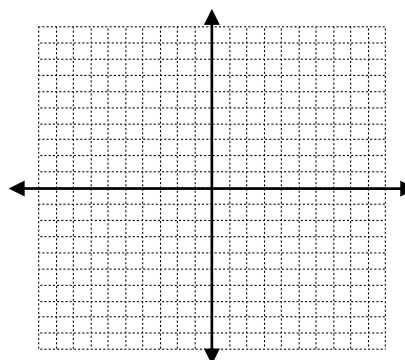
Center: _____

Vert: _____

CV: _____

Foci: _____

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



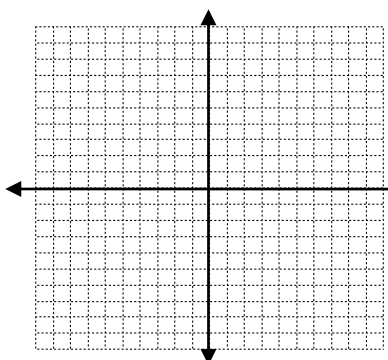
Center: _____

Vert: _____

CV: _____

Foci: _____

7. $(x + 3)^2 + 4(y - 2)^2 = 16$



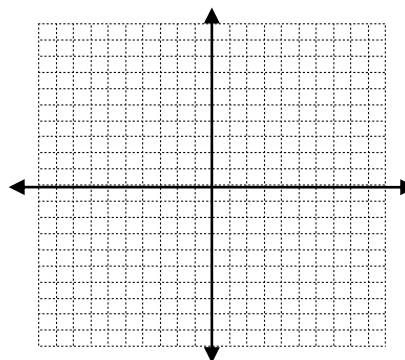
Center: _____

Vert: _____

CV: _____

Foci: _____

8. $\frac{x^2}{25} + \frac{(y-2)^2}{36} = 1$



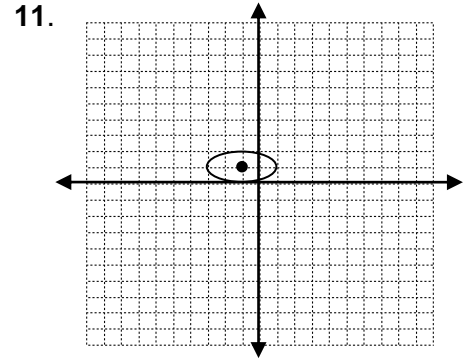
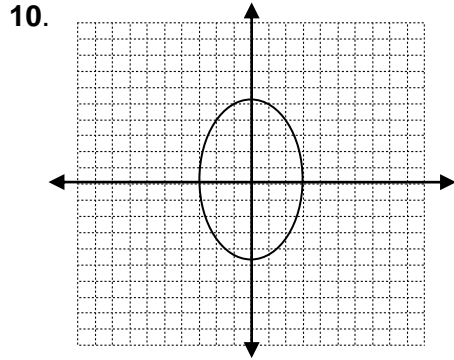
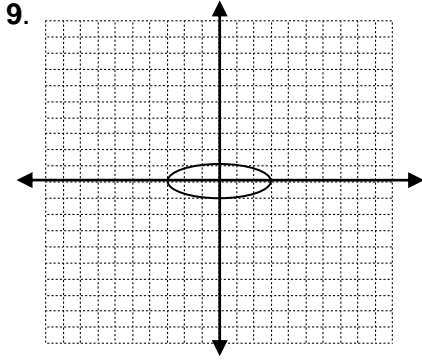
Center: _____

Vert: _____

CV: _____

Foci: _____

Find the standard form of the equation of each ellipse.



Find the standard form of the equation of each ellipse satisfying the given conditions.

12. Foci: $(\pm 5, 0)$; Vertices $(\pm 8, 0)$

13. Foci: $(0, \pm 4)$; Vertices: $(0, \pm 7)$

14. Foci: $(\pm 2, 0)$; y-intercepts: ± 3

15. Major axis horizontal with length 8; length of minor axis 4; Center $(0, 0)$

16. Major axis vertical with length 10;
Length of minor axis 4; Center $(-2, 3)$

17. Endpoints of Major Axis: $(7, 9)$ & $(7, 3)$
Endpoints of Minor Axis: $(5, 6)$ & $(9, 6)$

Convert each equation to standard form by completing the square.

18. $9x^2 + 25y^2 - 36x + 50y - 164 = 0$

19. $x^2 + 4y^2 + 10x - 8y + 13 = 0$

20. $4x^2 + y^2 + 16x - 6y - 39 = 0$

21. $4x^2 + 25y^2 - 24x + 100y + 36 = 0$