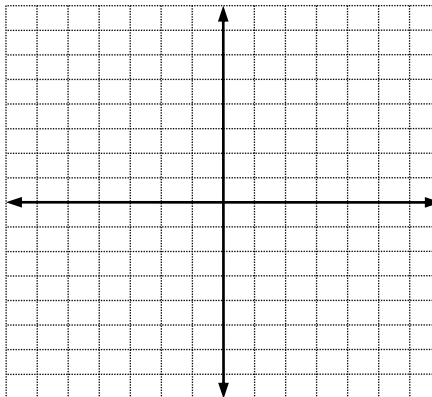


Graph each ellipse. Find the center, vertices, covertices, foci, and lengths of the major and minor axes for each ellipse whose equation is given.

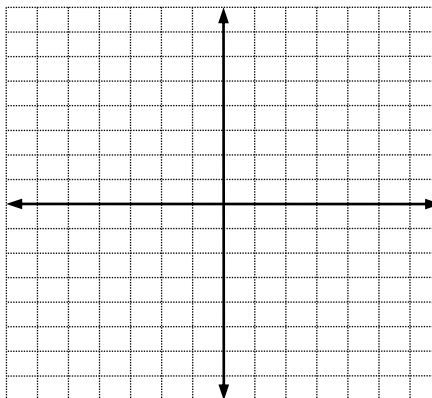
1.  $\frac{x^2}{4} + \frac{y^2}{16} = 1$

C \_\_\_\_\_  
 V \_\_\_\_\_  
 CV \_\_\_\_\_  
 F \_\_\_\_\_  
 major length = \_\_\_\_\_  
 minor length = \_\_\_\_\_



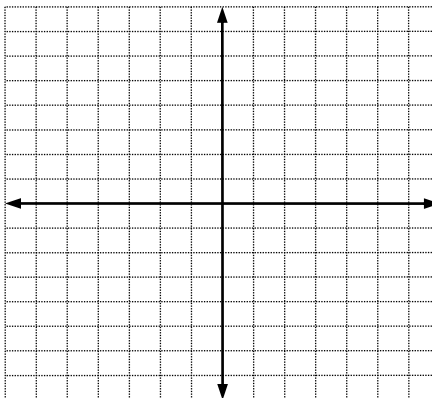
2.  $\frac{x^2}{9} + \frac{y^2}{4} = 1$

C \_\_\_\_\_  
 V \_\_\_\_\_  
 CV \_\_\_\_\_  
 F \_\_\_\_\_  
 major length = \_\_\_\_\_  
 minor length = \_\_\_\_\_



3.  $4x^2 + 81y^2 = 324$   
 (hint: Divide the equation by 324.)

C \_\_\_\_\_  
 V \_\_\_\_\_  
 CV \_\_\_\_\_  
 F \_\_\_\_\_  
 major length = \_\_\_\_\_  
 minor length = \_\_\_\_\_



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

C \_\_\_\_\_

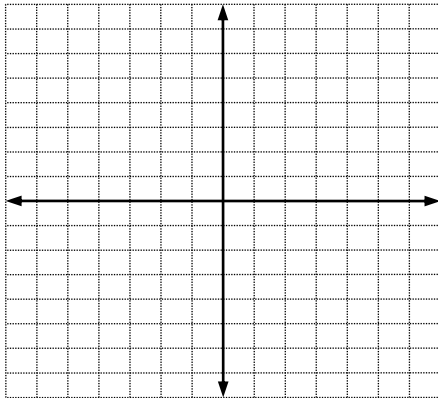
V \_\_\_\_\_

CV \_\_\_\_\_

F \_\_\_\_\_

major length = \_\_\_\_\_

minor length = \_\_\_\_\_



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

C \_\_\_\_\_

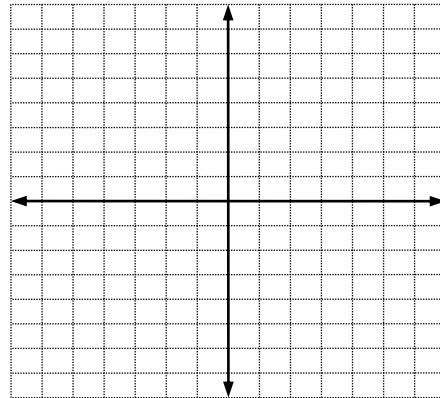
V \_\_\_\_\_

CV \_\_\_\_\_

F \_\_\_\_\_

major length = \_\_\_\_\_

minor length = \_\_\_\_\_



$$5. \frac{(x+4)^2}{25} + \frac{y^2}{16} = 1$$

C \_\_\_\_\_

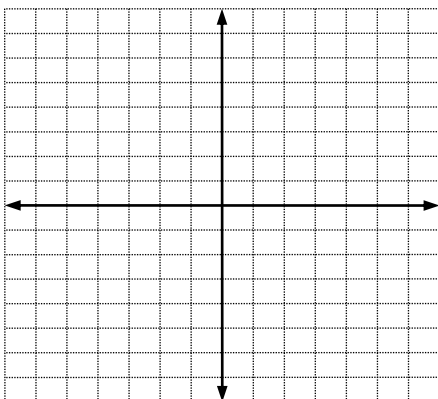
V \_\_\_\_\_

CV \_\_\_\_\_

F \_\_\_\_\_

major length = \_\_\_\_\_

minor length = \_\_\_\_\_



$$7. \frac{(x-3)^2}{25} + \frac{(y+3)^2}{36} = 1$$

C \_\_\_\_\_

V \_\_\_\_\_

CV \_\_\_\_\_

F \_\_\_\_\_

major length = \_\_\_\_\_

minor length = \_\_\_\_\_

