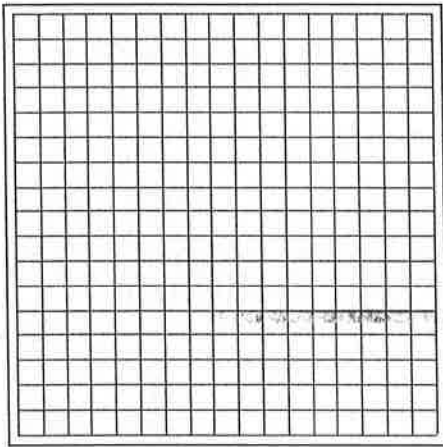
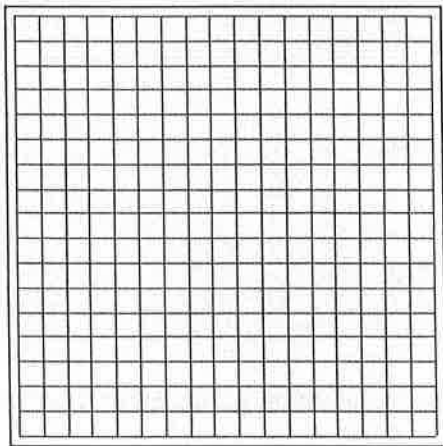


1. Find the focus of the parabola: $y^2 = -8x$
2. Identify the focus and directrix of the parabola given by $y^2 = -4x$.
3. Identify the focus and directrix of the parabola given by $x^2 = 12y$.
4. Graph the parabola. $y^2 - 8x = 0$ Include the vertex, focus, directrix, and four points other than the vertex.



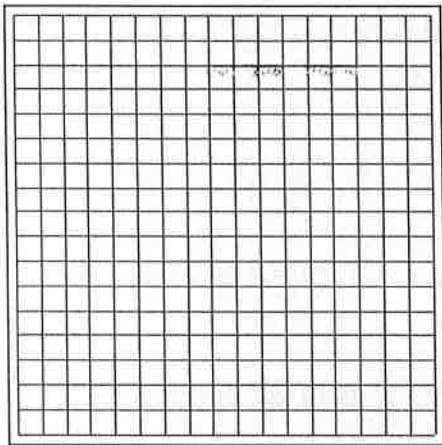
5. Write the standard form of the equation of the parabola with its vertex at $(0, 0)$ and focus at $(0, -4)$
6. Write the standard form of the equation of the parabola with its vertex at $(0, 0)$ and directrix $y = 5$.
7. Write the standard form of the equation of the parabola with its vertex at $(0, 0)$ and directrix $x = 2$.
8. Suppose a parabola has vertex $(0, 0)$ and the distance from the vertex to the focus is 5 units. How many possible parabolas fit this description? Write the equations of all the possible parabolas that fit this description.

9. Sketch the graph of $x^2 + y^2 = 49$. Give the center and 4 points on the circle.



10. Write the standard form of the equation of the circle with radius 6 and center at (0, 0)

11. Sketch the graph of $2x^2 + 2y^2 = 32$. Give the center and 4 points on the circle.



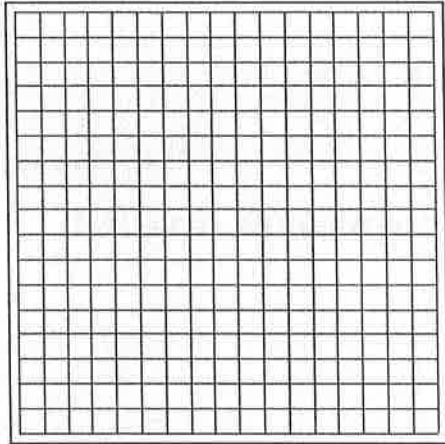
12. Write the standard form of the equation of the circle that passes through the point (0, 1) with its center at the origin.

13. Write the standard form of the equation of the circle that passes through the point (3, 4) with its center at the origin.

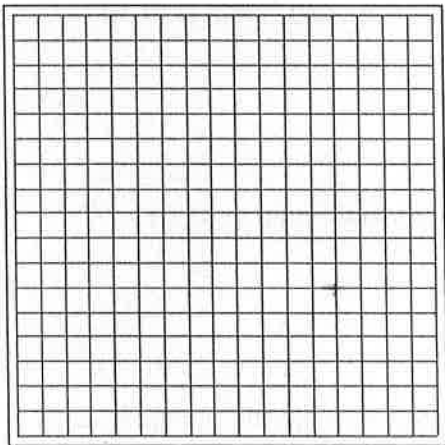
14. Write the standard form of the equation of the circle that passes through the point (1, -6) with its center at the origin.

15. Determine the foci, vertices, and covertices of the graph of $\frac{x^2}{9} + \frac{y^2}{16} = 1$

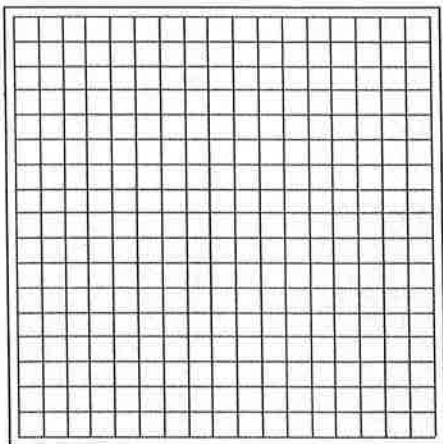
16. Sketch the graph of $\frac{x^2}{25} + \frac{y^2}{9} = 1$. Include the vertices, covertices, and foci.



17. Sketch the graph of $\frac{x^2}{4} + \frac{y^2}{9} = 1$. Include the vertices, covertices, and foci.



18. Sketch the graph of $16x^2 + y^2 = 16$. Include the vertices, covertices, and foci.



19. Write an equation of an ellipse with vertices of $(-7, 0)$ and $(7, 0)$, and co-vertices $(0, -4)$ and $(0, 4)$.

20. Write an equation of the ellipse with a vertex at $(9, 0)$, a co-vertex at $(0, 5)$, and center at $(0, 0)$.

21. Write an equation of the ellipse with a vertex at $(0, 8)$, a co-vertex at $(4, 0)$, and center at $(0, 0)$.

22. Write an equation of the ellipse with a vertex at $(5, 0)$, a focus at $(4, 0)$, and center at $(0, 0)$.

23. Writing: How is the equation of an ellipse like the equation of a circle? How are the equations different?