

Ellipse (C)

Given two points in the plane, called vertices, and a distance, M , which is greater than the distance between the vertices, an ellipse is the set of all points P in the plane for which the distance from one vertex to P to the other vertex is M . The chord containing the vertices is called the major axis of the ellipse. The chord containing the midpoint of the major axis is called the minor axis of the ellipse. The distance from a vertex to an endpoint of the minor axis is $M/2$. If the minor axis has length m then the area of the ellipse is

$$\text{Area} = \frac{\pi}{4} mM.$$

Exercises

1. What is the area of an ellipse if the length of the major axis is 4 and the minor axis is 3?
2. How far apart are the vertices of an ellipse if the major axis has length 26 and the minor axis has length 10?
3. What is the area of an ellipse if the major axis has length 10 and the vertices are 6 units apart?