

**Math Grades 9 - 12**  
**Hyperbolas**

MA.912.A.9.2

***A Short Account of the History of Mathematics***

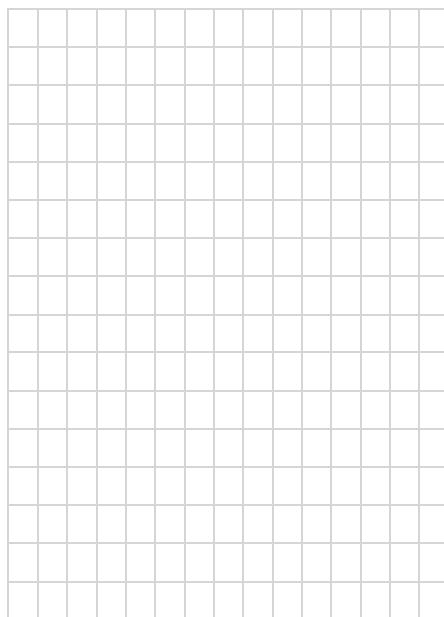
"William, Viscount Brouncker"

W. W. Rouse Ball

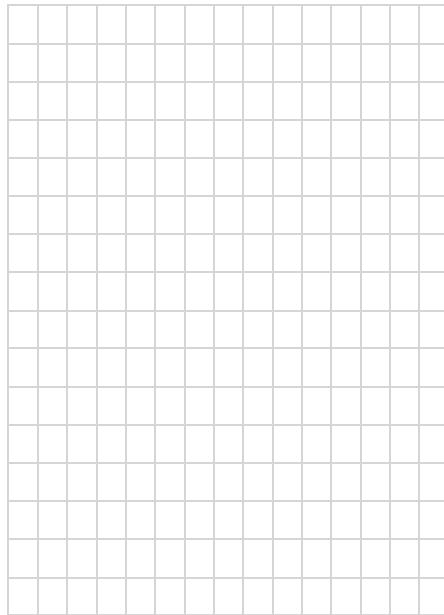
**Reading Level:** 12

**Activity:**

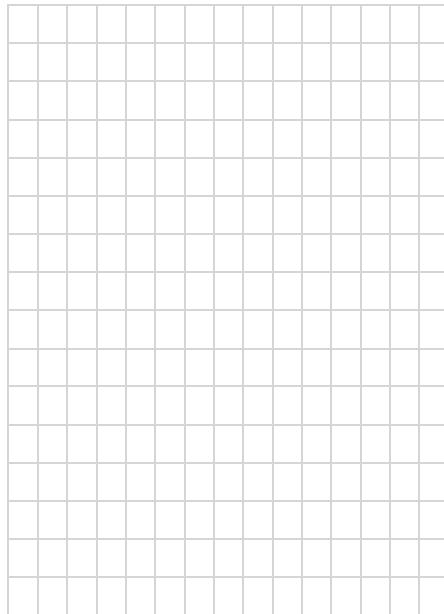
1. In the reading, Brouncker mentions the hyperbola  $xy=1$  and calls it the equilateral hyperbola. Graph  $xy=1$  on the graph below. This can also be called a rectangular hyperbola.



2. Graph the rectangular hyperbola  $xy = 4$ .



3. Graph the rectangular hyperbola  $xy = 9$ .



4. Compare and contrast the graphs of the hyperbolas  $xy = 1$ ,  $xy = 4$ , and  $xy = 9$ . What makes them different from other hyperbolas that are written in the form

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