Equations of Ellipses and Hyperbolas

Today's Standard

HSG.GPE.A3 - (+) Derive the equations of ellipses and hyperbolas given the foci, using the fact that the sum or difference of distances from the foci is constant.

Cues	Notes
Foci Ellipses Hyperbolas Sum of distances Equation derivation	The foci of an ellipse or hyperbola are key points used to derive their equations. For an ellipse, the sum of the distances from any point on the ellipse to the foci is constant. For a hyperbola, the difference of the distances from any point on the hyperbola to the foci is constant. Understanding these properties helps in deriving the equations of these conic sections. Graphing tools and hands-on activities can aid in visualizing and understanding these concepts.

Summary

Deriving the equations of ellipses and hyperbolas involves understanding the properties of their foci and the constant sum or difference of distances. Visualization and practical activities enhance comprehension.