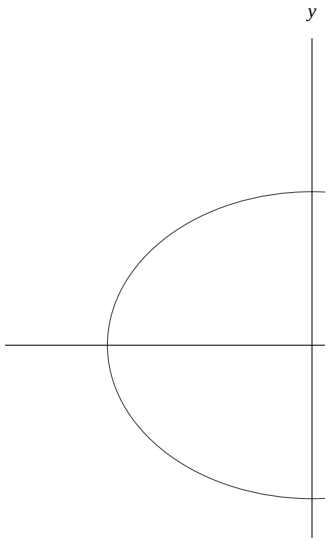
WolframAlpha™ computational™ knowledge engine

ellipse

Input interpretation:

ellipse

Visual representation:



Equation:

$$\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$$

Properties:

foci	$(\sqrt{a^2 - b^2}, 0)$ | $(-\sqrt{a^2 - b^2}, 0)$
semi−axis lengths	a | b
area	$\pi a b \approx 3.14159\, a b$
perimeter	$4 a E\left(1 - \frac{b^2}{a^2}\right)$
focal parameter	$\frac{b^2}{\sqrt{a^2 - b^2}}$
eccentricity	$\sqrt{1 - \frac{b^2}{a^2}}$

(assuming semimajor axis length a, semiminor axis length b)