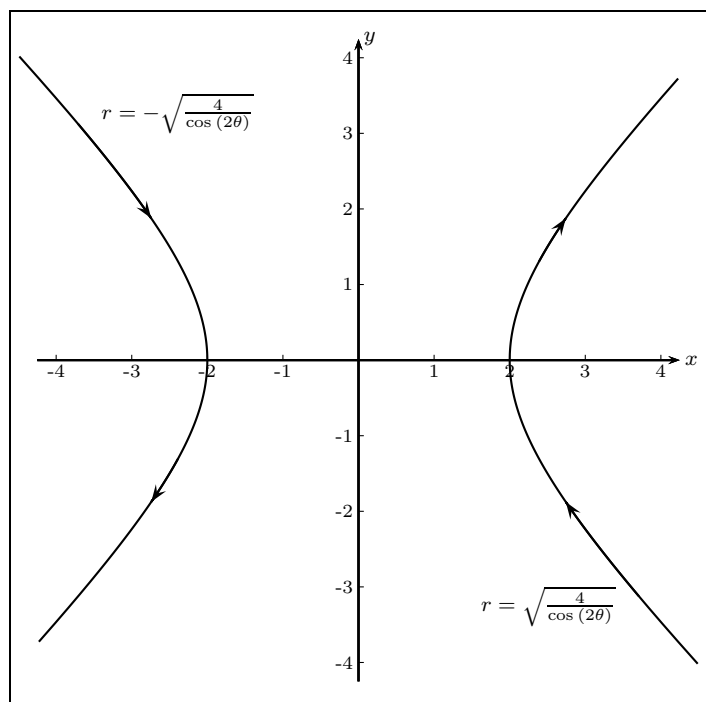


Calculus II, Section 10.3, #26
Polar Coordinates

Find a polar equation for the curve represented by the given Cartesian equation.¹

$$x^2 - y^2 = 4$$

$$\begin{aligned}x^2 - y^2 &= 4 \\(r \cos(\theta))^2 - (r \sin(\theta))^2 &= 4 \\r^2 \cos^2(\theta) - r^2 \sin^2(\theta) &= 4 \\r^2 (\cos^2(\theta) - \sin^2(\theta)) &= 4 \\r^2 \cos(2\theta) &= 4\end{aligned}$$



¹Stewart, *Calculus, Early Transcendentals*, p. 667, #26.