Question:

Two curves intersect orthogonally when their tangent lines at each point of intersection are perpendicular. Suppose \( C \) is a positive number. The curves \( y = Cx^2 \) and \( y = \frac{1}{x} \) intersect twice. Find \( C \) so that the curves intersect orthogonally. For that value of \( C \), sketch both curves when \(-2 \leq x \leq 2\) and \(0 \leq y \leq 4\).