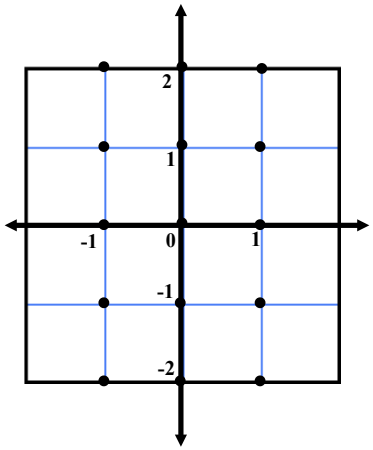
AP Test Question
2005
Part B - No Calculator Allowed

6) Consider the differential equation $\frac{dy}{dx} = -\frac{2x}{y}$.

a) On the axes provided, sketch a slope field for the given differential equation at the twelve points indicated.



b) Let $y = f(x)$ be the particular solution to the differential equation with the initial condition $f(1) = -1$. Write an equation for the line tangent to the graph of f at (1,-1) and use it to approximate $f(1.1)$.

c) Find the particular solution $y = f(x)$ to the given differential equation with initial condition $f(1) = -1$.