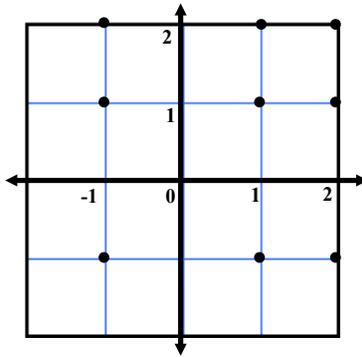


AP Test Question  
2008  
Part B - No Calculator Allowed

5) Consider the differential equation  $\frac{dy}{dx} = \frac{y-1}{x^2}$ , where  $x \neq 0$ .

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



b) Find the particular solution  $y = f(x)$  to the differential equation with the initial condition  $f(2) = 0$ .

c) For the particular solution  $y = f(x)$  described in part b), find  $\lim_{x \rightarrow \infty} f(x)$ .