7. (3 points each) The following each require a short answer with no explanation.

(a) Give a function \( f(x) \) so that the integral \( \int_{-1}^{2} f(x) \, dx \) is an improper integral.

(b) A slope field is shown below. Choose the differential equation that matches the given slope field.

(A) \( \frac{dy}{dx} = x^2 - y^2 \)  
(B) \( \frac{dy}{dx} = y^2 - x^2 \)

(C) \( \frac{dy}{dx} = \frac{x+y}{x-y} \)  
(D) \( \frac{dy}{dx} = \frac{x-y}{x+y} \)

(This problem continues on the next page.)