

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.

$$f(x) = \frac{1}{x}$$

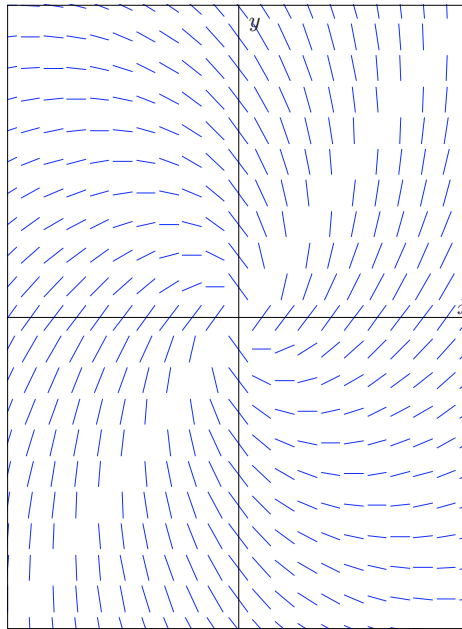
- (b) A slope field is shown below. Choose the differential equation that matches the given slope field.

(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.)