

Question 2: Which of the following is NOT a differential equation?

(a) $y' = 3y$

(b) $2x^2y + y^2 = 6$

(c) $tx \frac{dx}{dt} = 2$

(d) $\frac{d^2y}{dx^2} + 4\frac{dy}{dx} + 7y + 8x = 0$

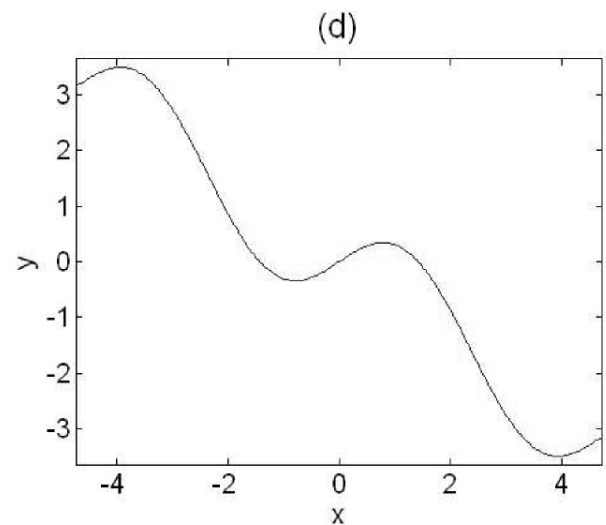
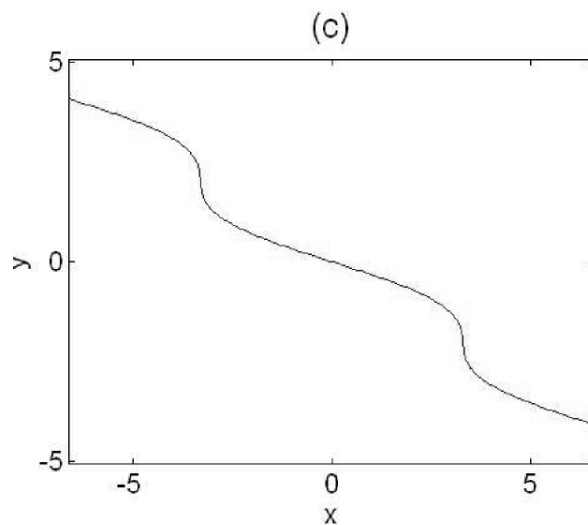
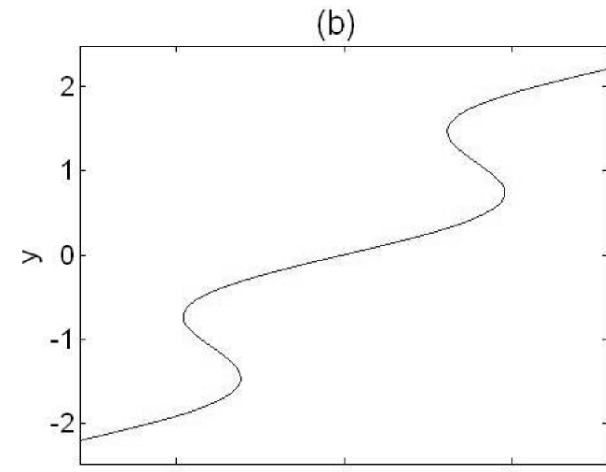
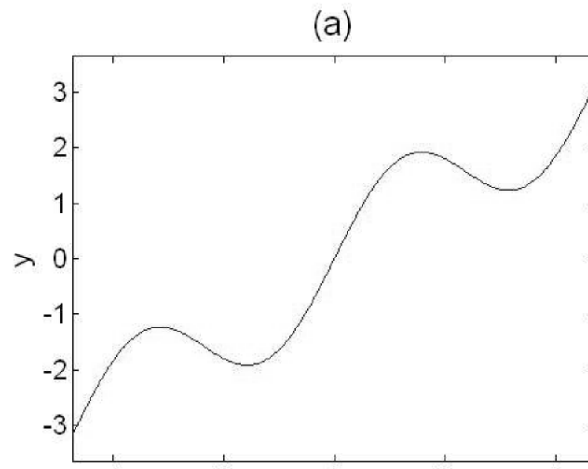
(e) All are differential equations.

Question 1: What is the order of the following differential equation?

$$\frac{d^2u}{dx^2} + \left(\frac{du}{dx}\right)^3 + 4u \sin(x) = 0$$

- A) 1** **B) 2** **C) 3** **D) 4** **E) Impossible to say**

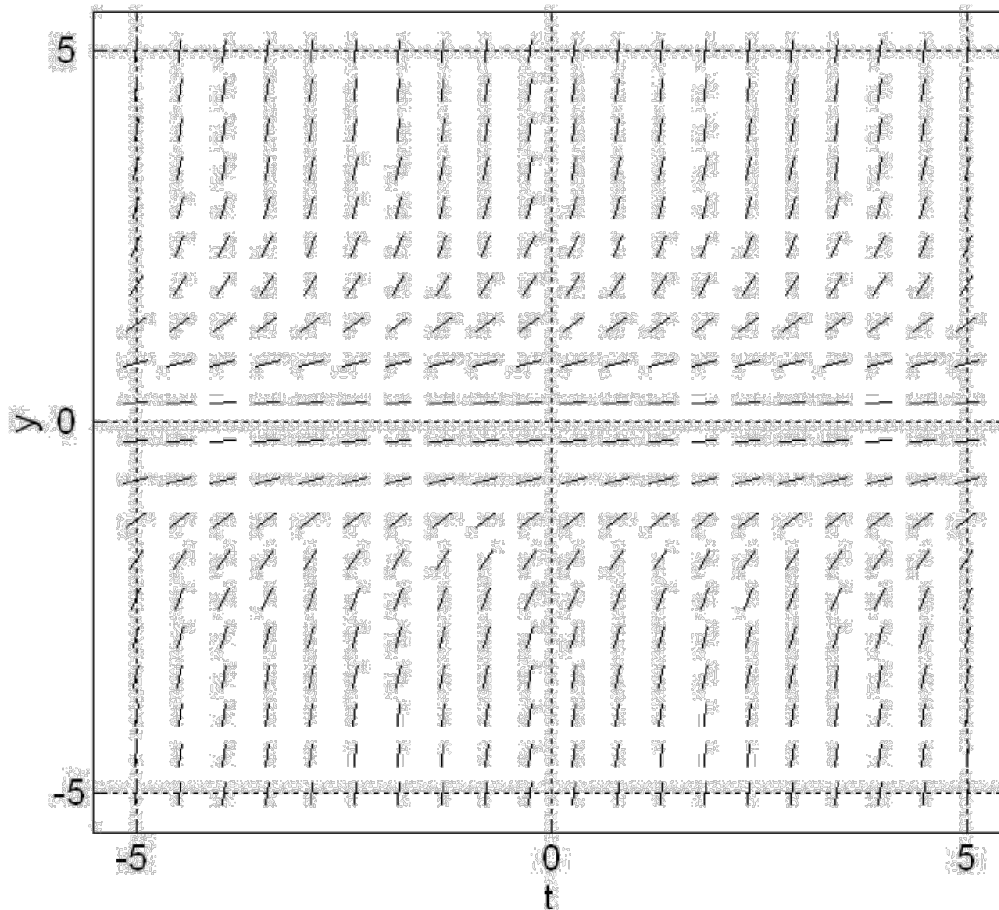
Question 3: Which of the following can NOT represent the solution of a differential equation?



Question A: What does the differential equation $y' = 2y$ tell you about the slope of the solution curves at any point?

- (a) The slope is always 2.
- (b) The slope is equal to the x -coordinate.
- (c) The slope is equal to the y -coordinate.
- (d) The slope is equal to two times the x -coordinate.
- (e) The slope is equal to two times the y -coordinate.
- (f) None of the above.

Question B: The slope field below indicates that the differential equation has which form?



A. $y' = f(t)$

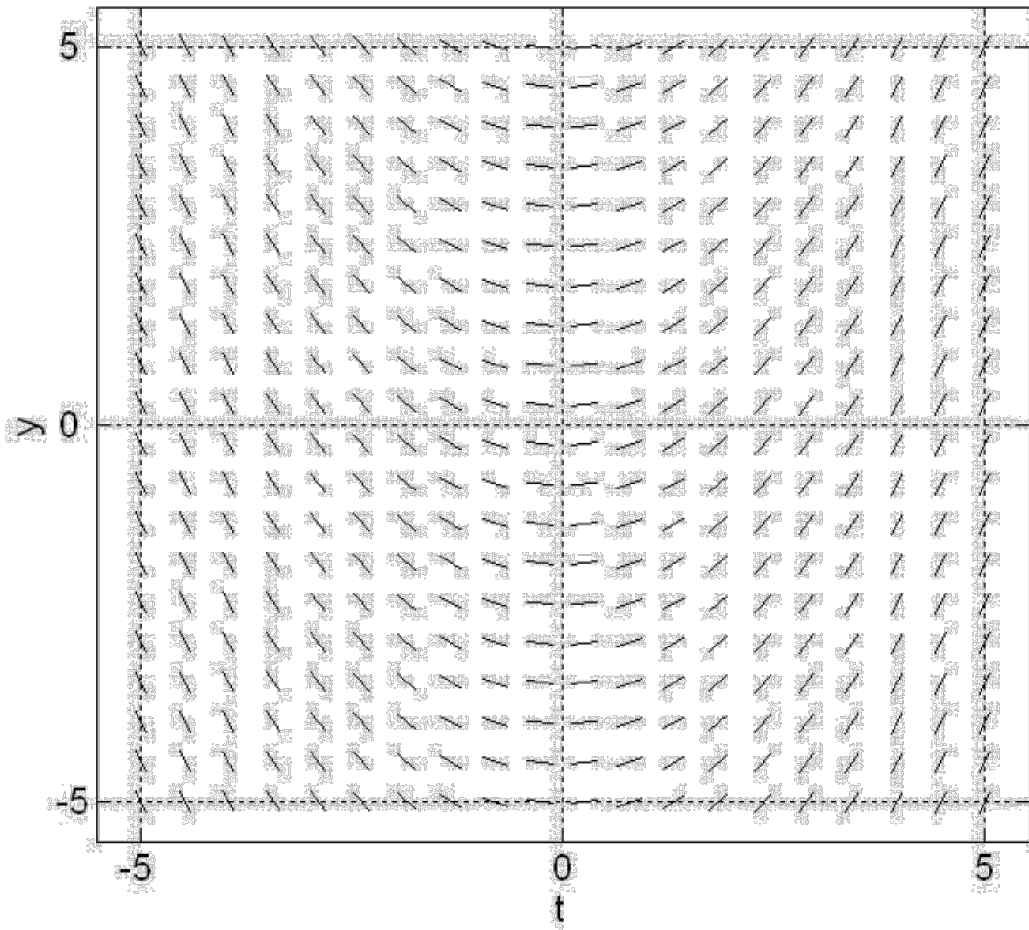
B. $y' = f(y)$

C. $y' = f(t, y)$

D. None of the above.

E. We don't have enough information to answer

Question C: The slope field below indicates that the differential equation has which form?



A. $y' = f(t)$

B. $y' = f(y)$

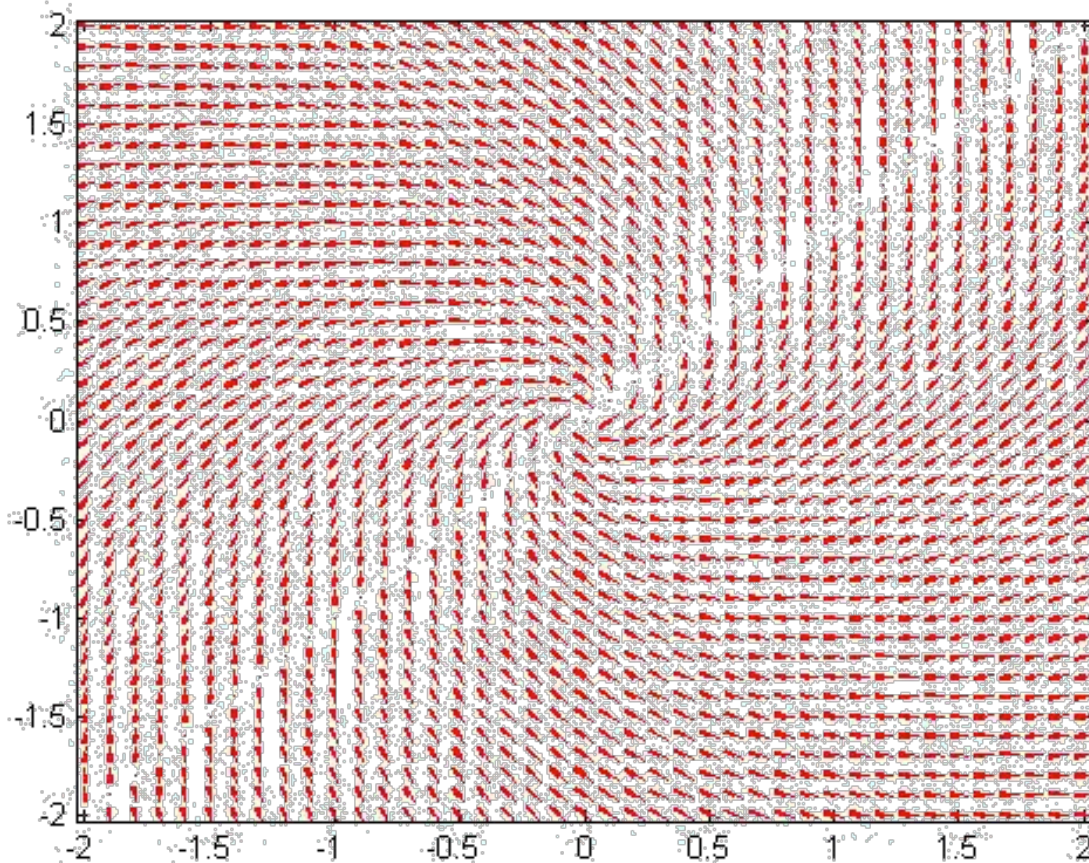
C. $y' = f(t, y)$

D. None of the above.

E. We don't have enough information to answer

Question 1: Which of the following DEs would generate the slope field?

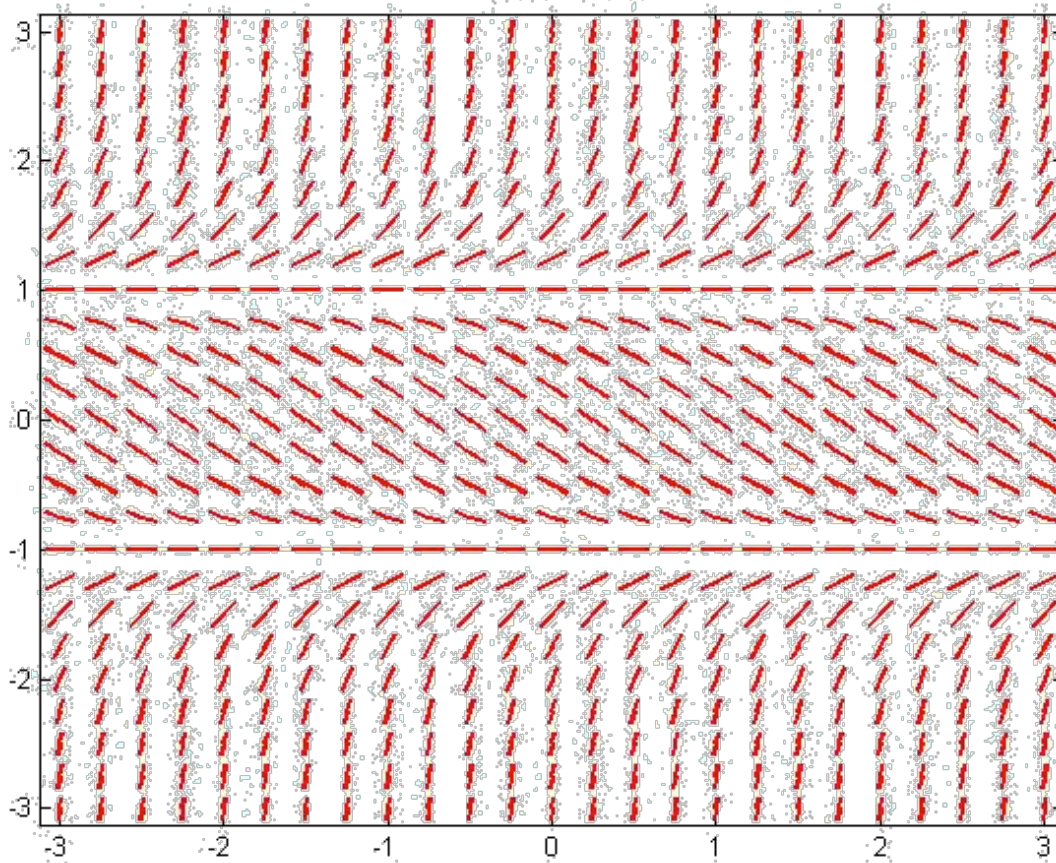
FIGURE 1



- A. $y' = 1/x$
- B. $y' = 1/y$
- C. $y' = \exp(-x^2)$
- D. $y' = y^2 - 1$
- E. $y' = (x+y)/(x-y)$
- F. $y' = \sin(x)\sin(y)$

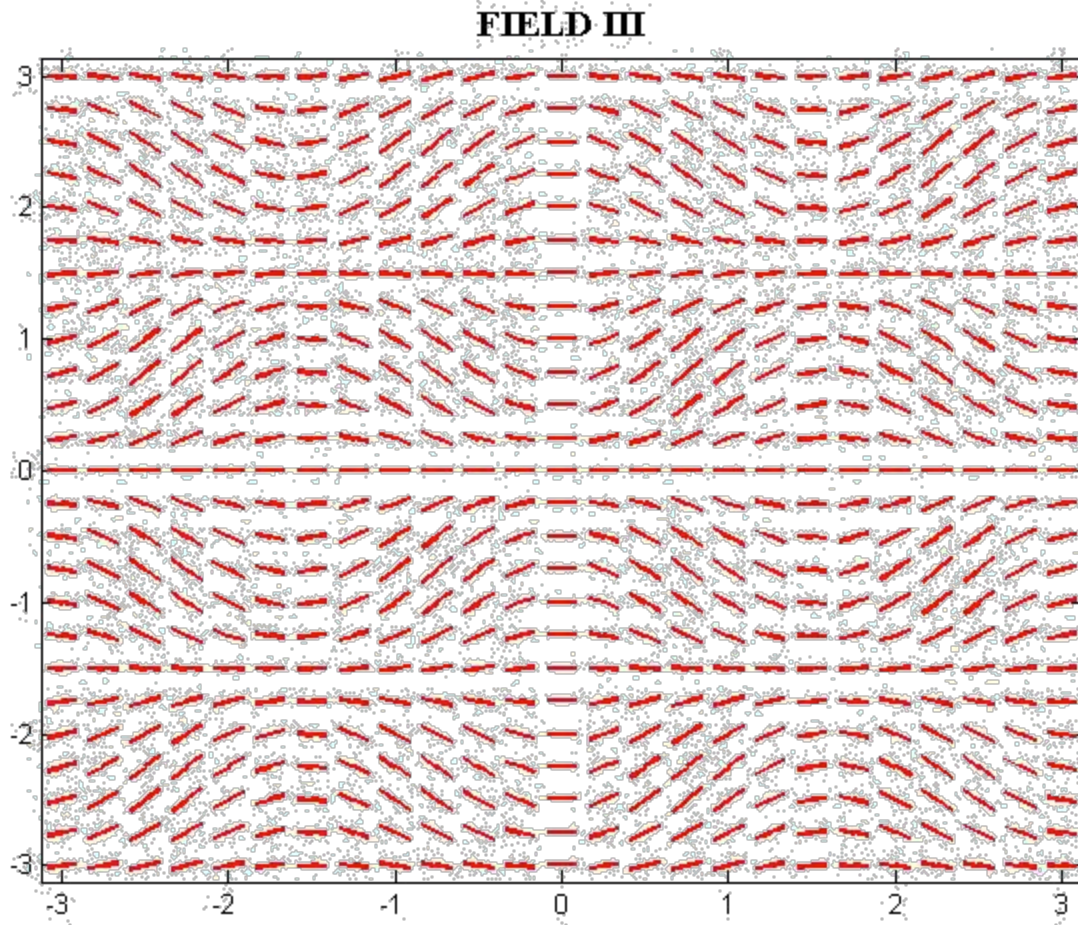
Question 2: Which of the following DEs would generate the slope field?

FIGURE II



- A. $y' = 1/x$
- B. $y' = 1/y$
- C. $y' = \exp(-x^2)$
- D. $y' = y^2 - 1$
- E. $y' = (x+y)/(x-y)$
- F. $y' = \sin(x)\sin(y)$

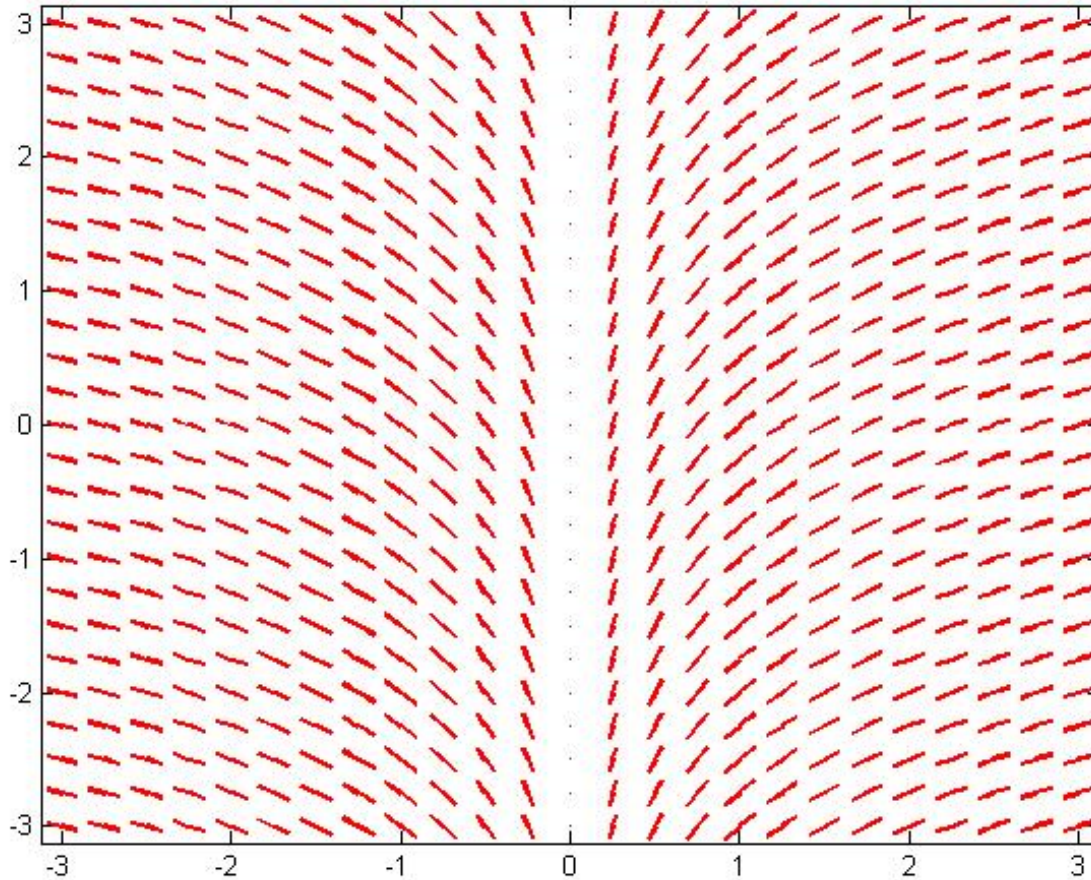
Question 3: Which of the following DEs would generate the slope field?



- A. $y' = 1/x$
- B. $y' = 1/y$
- C. $y' = \exp(-x^2)$
- D. $y' = y^2 - 1$
- E. $y' = (x+y)/(x-y)$
- F. $y' = \sin(x)\sin(y)$

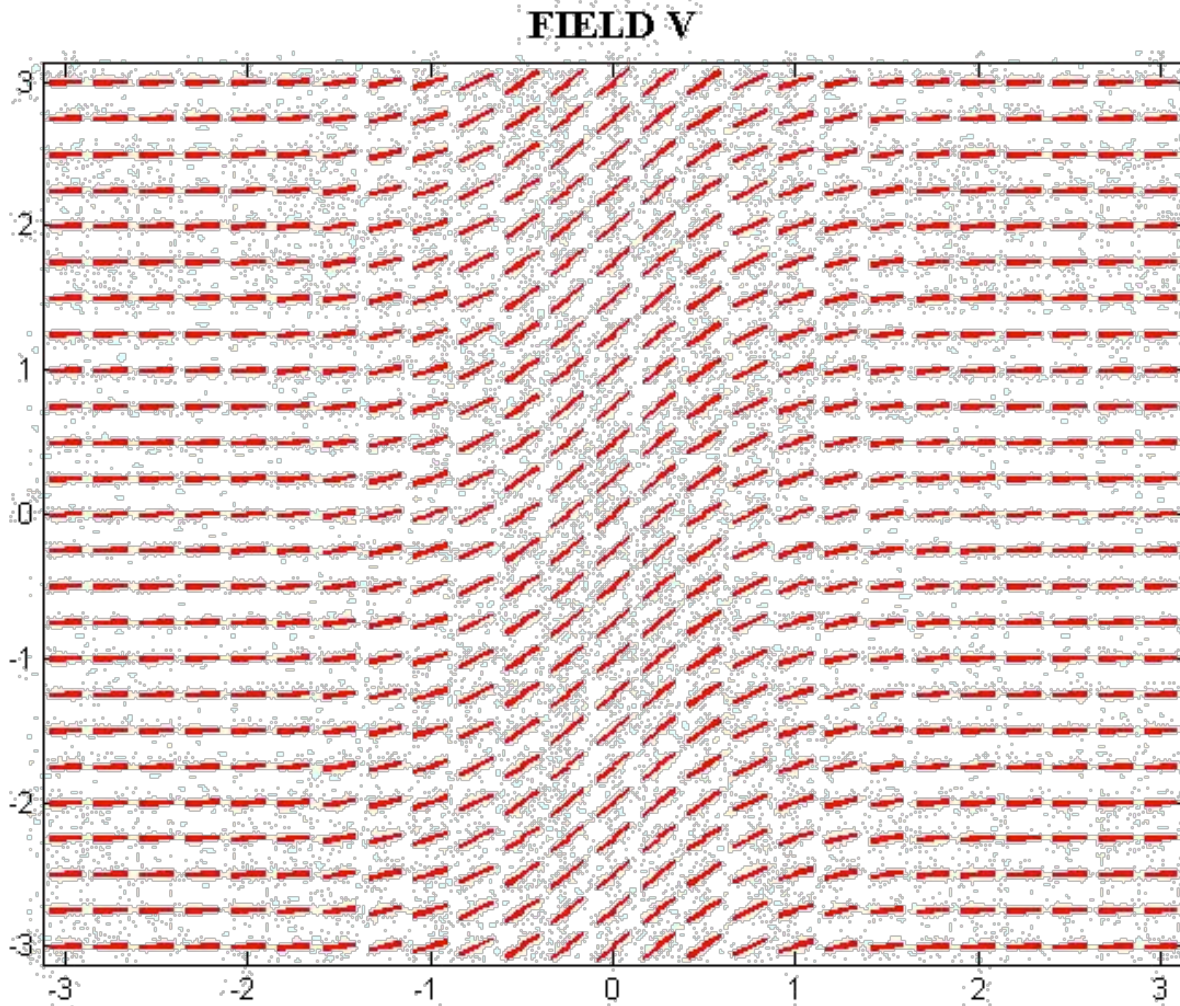
Question 4: Which of the following DEs would generate the slope field?

FIGURE IV



- A. $y' = 1/x$
- B. $y' = 1/y$
- C. $y' = \exp(-x^2)$
- D. $y' = y^2 - 1$
- E. $y' = (x+y)/(x-y)$
- F. $y' = \sin(x)\sin(y)$

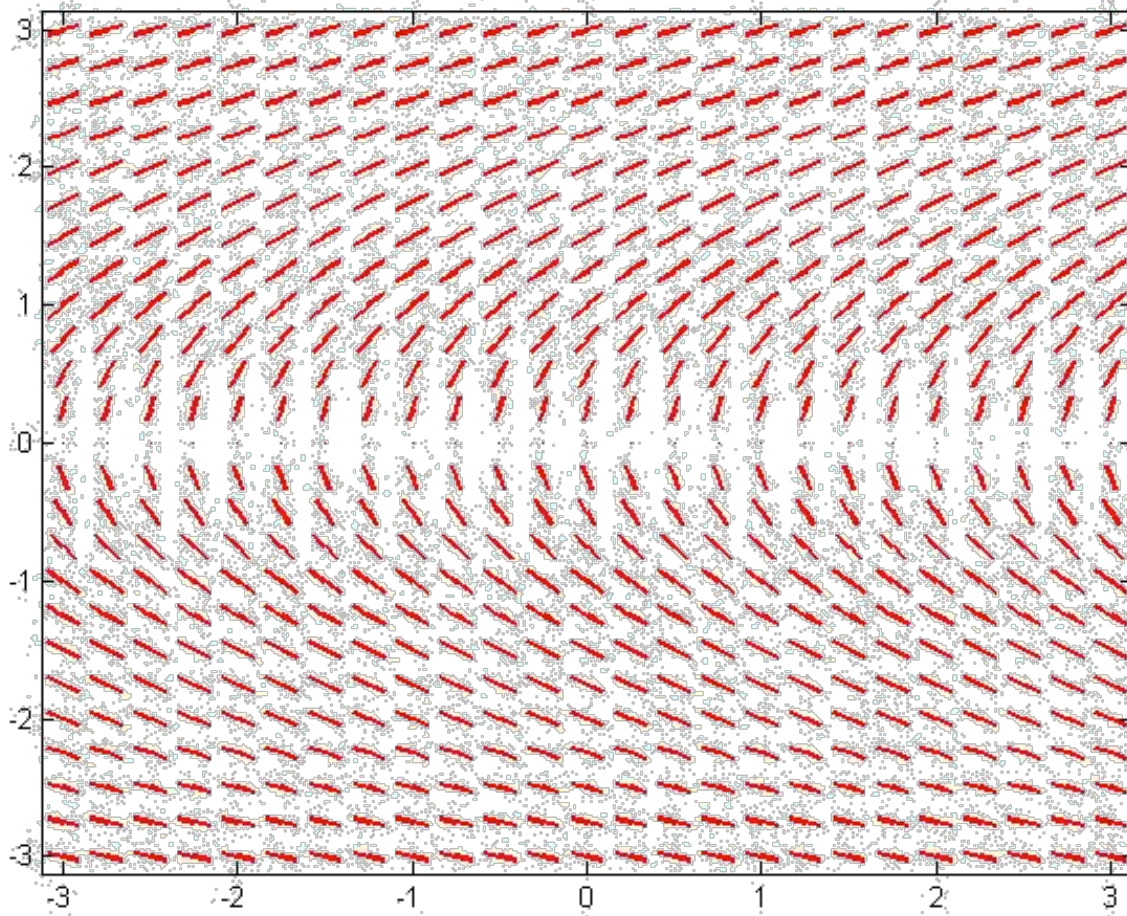
Question 5: Which of the following DEs would generate the slope field?



- A. $y' = 1/x$
- B. $y' = 1/y$
- C. $y' = \exp(-x^2)$
- D. $y' = y^2 - 1$
- E. $y' = (x+y)/(x-y)$
- F. $y' = \sin(x)\sin(y)$

Question 6: Which of the following DEs would generate the slope field?

FIGURE VI



- A. $y' = 1/x$
- B. $y' = 1/y$
- C. $y' = \exp(-x^2)$
- D. $y' = y^2 - 1$
- E. $y' = (x+y)/(x-y)$
- F. $y' = \sin(x)\sin(y)$