

Q1

2 Points

Which of the following differential equations are linear? (there are more than one correct answer)

$y' + ty^2 = \sqrt{t}$

$t - y' = \frac{1}{\sin(t)}y$

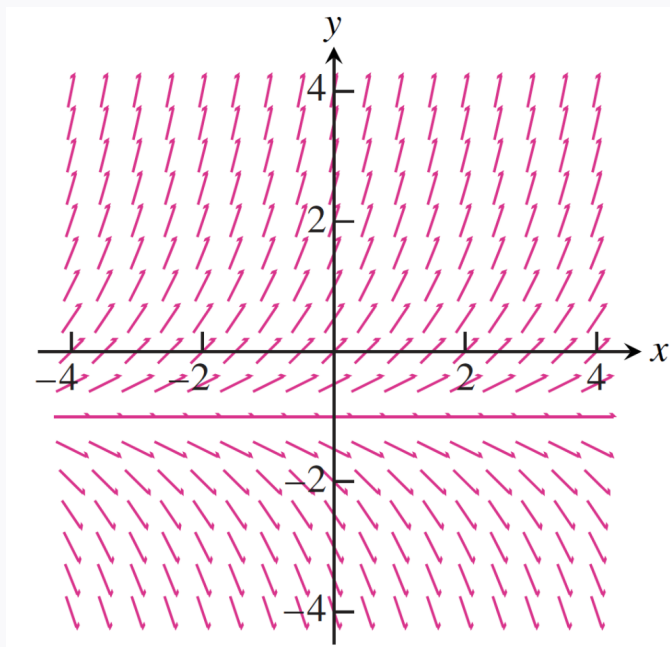
$y' = \frac{1}{t} - \frac{1}{y}$

$y \sin(t) = t^2 y' - e^t$

Q2

1 Point

Choose the differential equation whose direction field is graphed below



- $y' = x + y$
 $y' = y + 1$
 $y' = y^2 + 1$

Q3

7 Points

Solve the following initial value problem

$$ty' + 2y = \sin(t), \quad y(\pi) = 0$$