

Name:

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**MATH-202**

**Term-072**

**QUIZ-2**

**Form(B)**

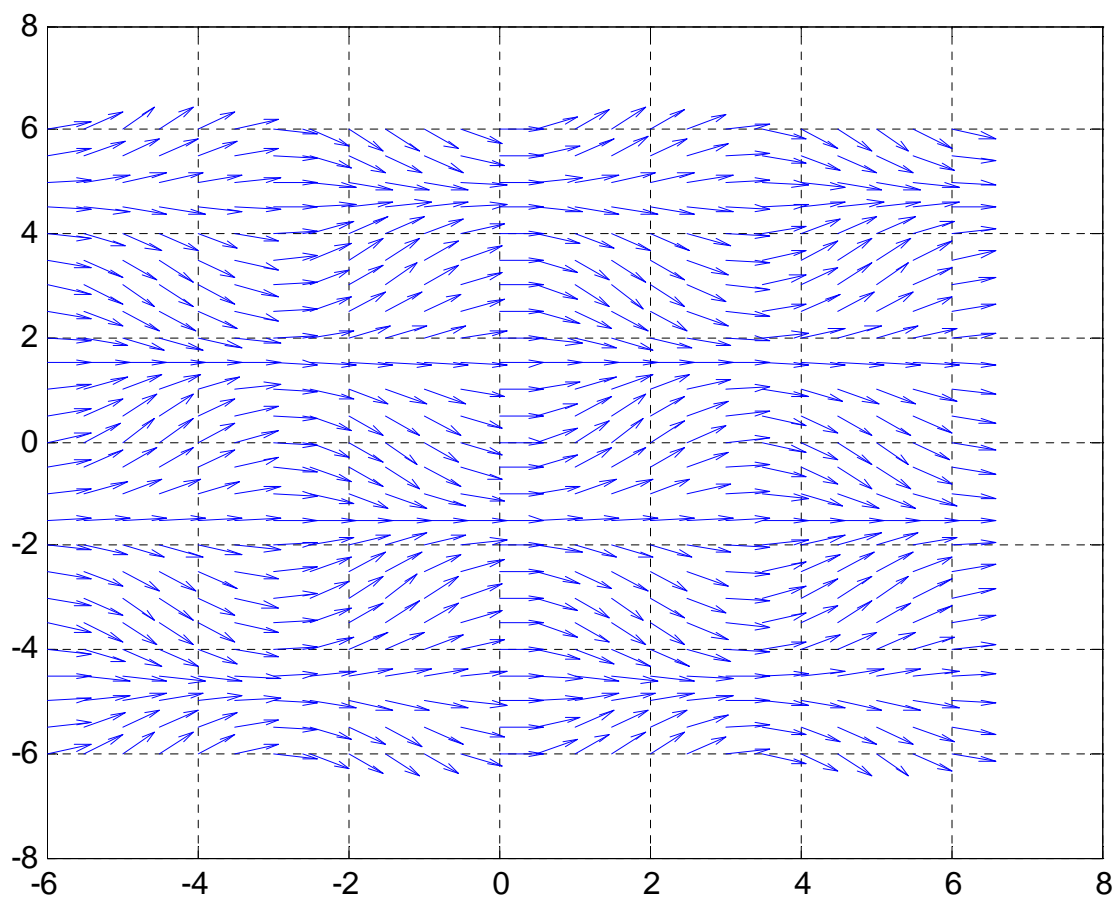
- 1) A tank contains 600 liters of fluid in which 50 grams of salt is dissolved. Brine containing 2 gram of salt per liter is then pumped into the tank at a rate of 6 L/min; the well-mixed solution is pumped out at the same rate. What is the concentration of the salt in the tank after 10 min?

2) Consider the following IVP:

$$\frac{dy}{dx} = (\sin x)(\cos y)$$
$$y(-4) = -4$$

Figure(1) displays the computer-generated direction field. Use Figure(1) to estimate the value of  $y(2)$ .

[[ Hint: sketch by hand an approximate solution curve that passes through the initial condition then use this curve to estimate the value]]



$y(2) \cong$	
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