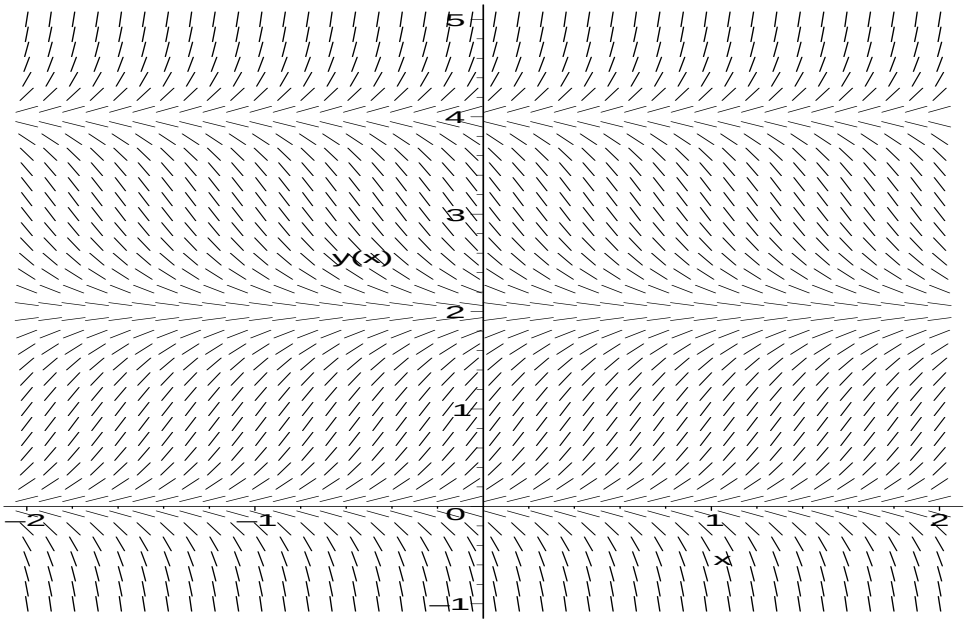
Name:_____

640:244–01 SPRING 2007 Quiz 1 January 24, 2007

1. Solve for $y(t)$: $y' + \dfrac{2}{t}y = 4, \quad y(1) = 2.$

2. Here is the direction field of a certain differential equation:



(a) On the figure, sketch the solution which satisfies $y(0) = 3$.

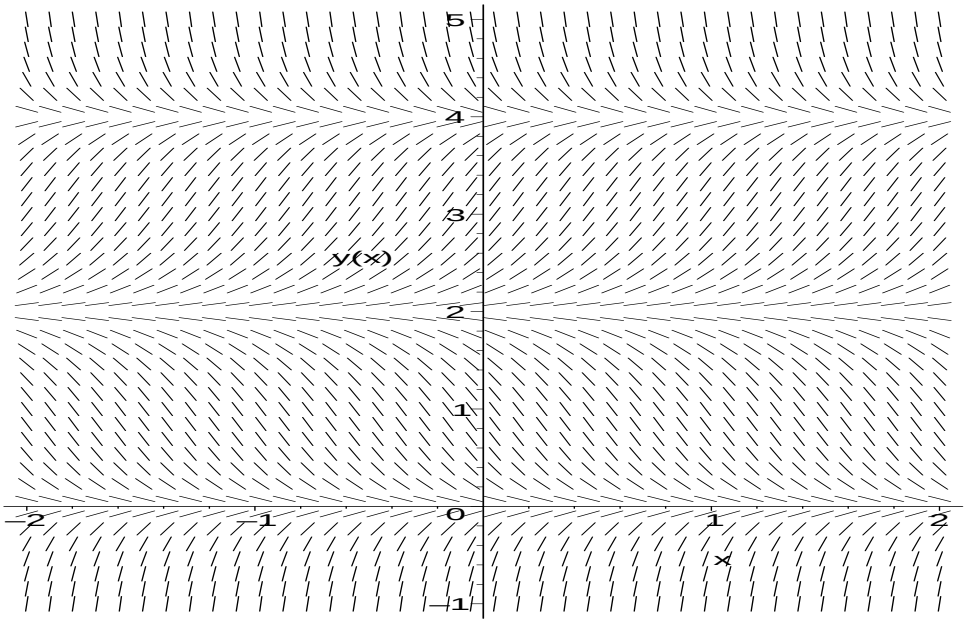
(b) Find a value of y_0 such that if $y(x)$ is a solution with $y(0) = y_0$ then $\lim_{x\to\infty} y(x) = 0$ and $\lim_{x\to-\infty} y(x) = 2$: $y_0 =$ ____.

Name:_____

640:244–02 SPRING 2007 Quiz 1 January 24, 2007

1. Solve for $y(t)$: $y' + \dfrac{2}{t}y = -1, \quad y(1) = 1.$

2. Here is the direction field of a certain differential equation:



(a) On the figure, sketch the solution which satisfies $y(0) = 3$.

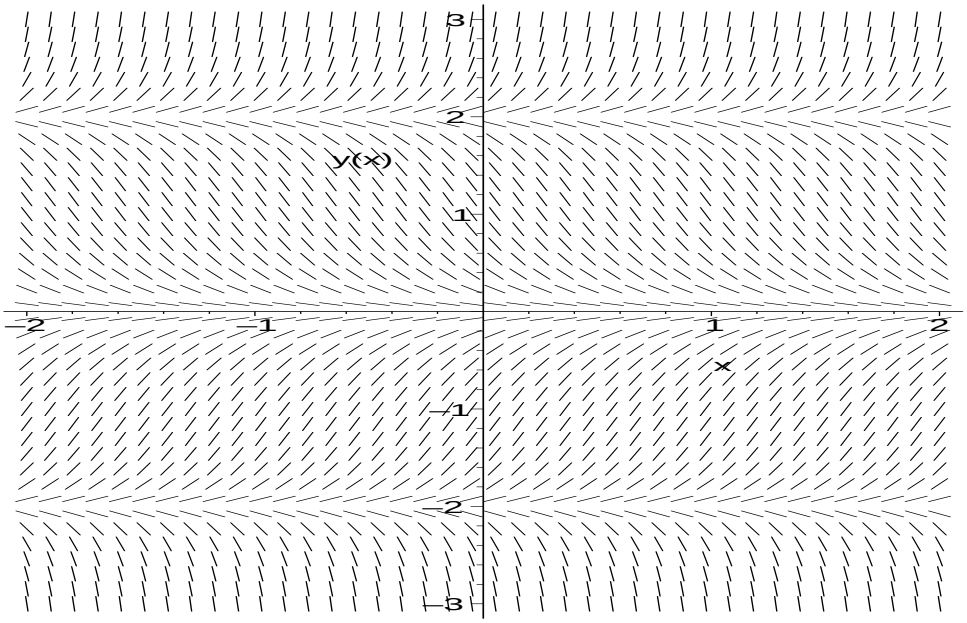
(b) Find a value of y_0 such that if $y(x)$ is a solution with $y(0) = y_0$ then $\lim_{x\to\infty} y(x) = 0$ and $\lim_{x\to-\infty} y(x) = 2$: $y_0 =$ ____.

Name:_____

640:244–03 SPRING 2007 Quiz 1 January 24, 2007

1. Solve for $y(t)$: $y' + \dfrac{2}{t}y = 2, \quad y(1) = -1.$

2. Here is the direction field of a certain differential equation:



(a) On the figure, sketch the solution which satisfies $y(0) = -1$.

(b) Find a value of y_0 such that if $y(x)$ is a solution with $y(0) = y_0$ then $\lim_{x\to\infty} y(x) = 0$ and $\lim_{x\to-\infty} y(x) = 2$: $y_0 =$ ____.