

Name: \_\_\_\_\_

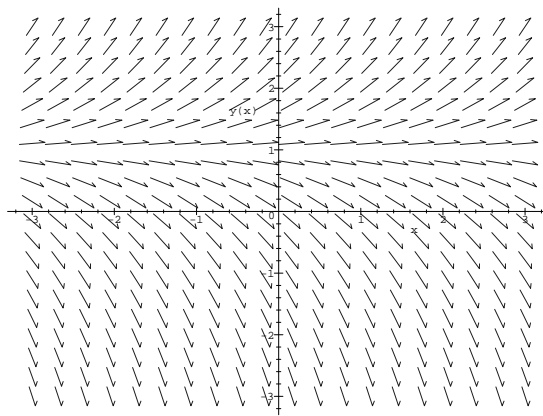
### Mathematics 8

#### Homework Assignment #1 Supplement

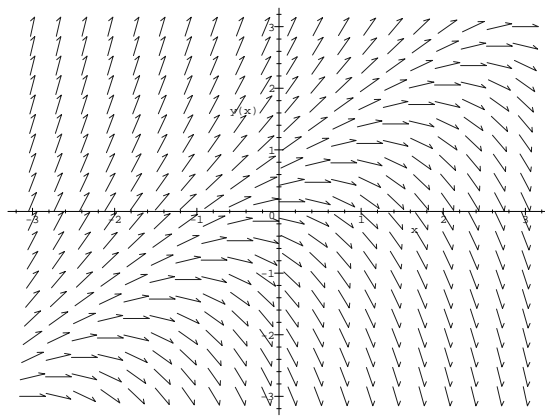
1 – 4. Consider the slope fields given below. Match the differential equation with the appropriate slope field, and justify your answers.

1.  $dy/dx = y - 1$       2.  $dy/dx = y^3 - x^3$       3.  $dy/dx = y^2 - x^2$       4.  $dy/dx = y - x$

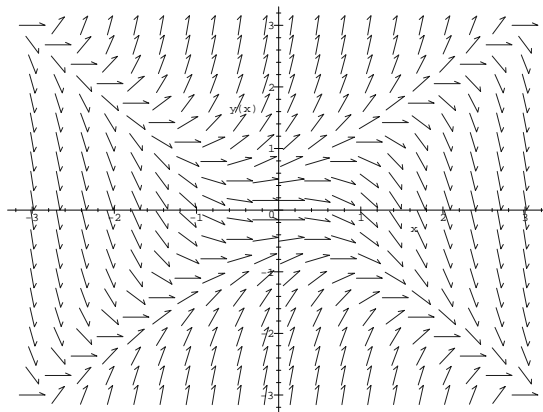
Example 1



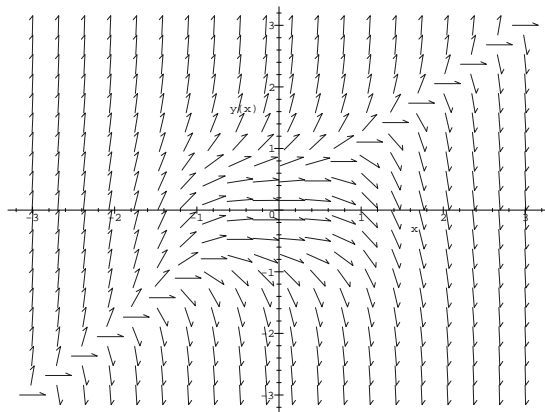
Example 2



Example 3



Example 4



5 – 8. On each of the slope fields above, sketch the graphs of solutions which satisfy  $y(0) = 1$ ,  $y(0) = 0$ , and  $y(0) = -1$ . The units are from  $-3$  to  $+3$  on both  $x$  and  $y$  axes.

9. Draw a slope field for the differential equation  $dy/dx = x - y$ , and draw a couple of solution curves.