

November 8

What is the best thing to happen at TJ so far this year?

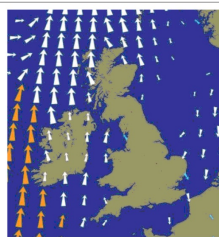
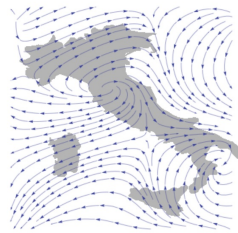
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Students will verbally explain how to draw a slope field given a differential equation

(using the words: slope, point ...)

Slope Field

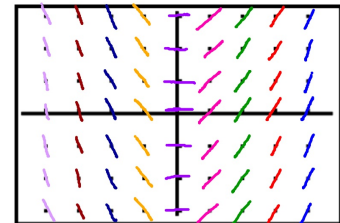
Shows the tangent line of a function at a given point  
- given the derivative draw short line segments to show the slope at a point  
generated by the derivative but look like the function



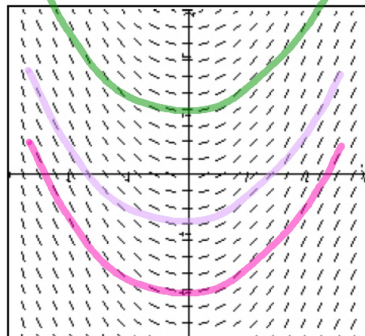
Given the function:  $y = 0.5x^2$  Write the derivative:  $\frac{dy}{dx} = x$

At each grid point, calculate the value of the derivative and draw a short line segment with that slope.

point	derivative
(0,0)	0
(0,1)	0
(1,0)	1
(-1,0)	-1
(2,0)	2
(3,0)	



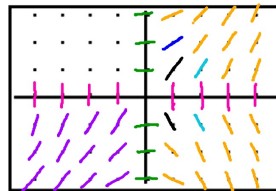
Sketch a function that matches this slope field.



What family of functions  
seems to match this slope  
field?

$x^2$   
quadratic

If  $\frac{dy}{dx} = \frac{2x}{y}$  sketch the slope field



$$(2,1) \rightarrow 4$$

$$(1,2) \rightarrow 2$$

$(0,0)$	$\frac{0}{0} = \text{und. (vertical)}$
$(1,0)$	$\frac{2}{0} = \text{und. (vertical)}$
$(0,y)$	$\frac{0}{y} = 0$ (horiz)
$(1,1)$	2