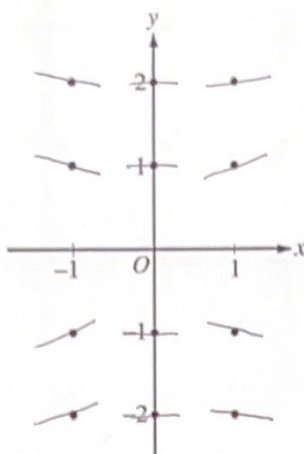


Slope Fields

Directions: Sketch the slope field for each of the given differential equations at the indicated points.

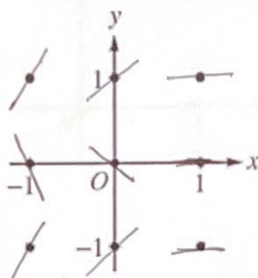
1. $\frac{dy}{dx} = \frac{x}{2y}$

$(1, 1) \rightarrow \frac{1}{2}$	$(1, -1) \rightarrow -\frac{1}{2}$
$(1, 2) \rightarrow \frac{1}{4}$	$(1, -2) \rightarrow -\frac{1}{4}$
$(0, 1) \rightarrow 0$	$(0, -1) \rightarrow 0$
$(0, 2) \rightarrow 0$	$(0, -2) \rightarrow 0$
$(-1, 1) \rightarrow -\frac{1}{2}$	$(-1, -1) \rightarrow \frac{1}{2}$
$(-1, 2) \rightarrow -\frac{1}{4}$	$(-1, -2) \rightarrow \frac{1}{4}$



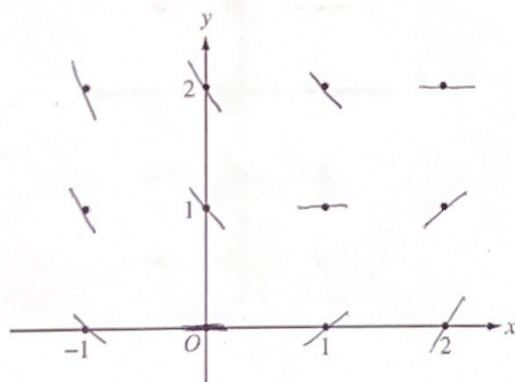
2. $\frac{dy}{dx} = (x - 1)(\cos \pi y)$

$(-1, 1) = 2$	$(1, 1) = 0$
$(-1, 0) = -2$	$(1, 0) = 0$
$(-1, -1) = 2$	$(1, -1) = 0$
$(0, 1) = 1$	
$(0, 0) = -1$	
$(0, -1) = 1$	



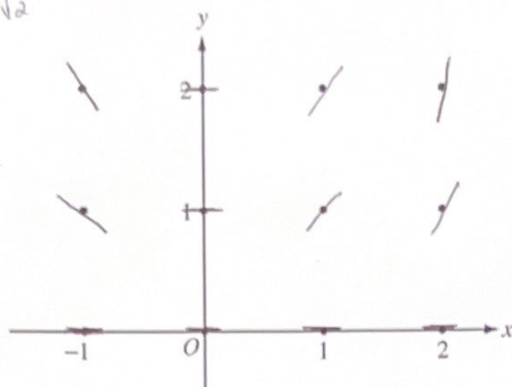
3. $\frac{dy}{dx} = x - y$

$(-1, 0) = -1$
$(-1, 1) = -2$
$(-1, 2) = -3$
$(0, 0) = 0$
$(0, 1) = -1$
$(0, 2) = -2$
$(1, 0) = 1$
$(1, 1) = 0$
$(1, 2) = -1$
$(2, 0) = 2$
$(2, 1) = 1$
$(2, 2) = 0$



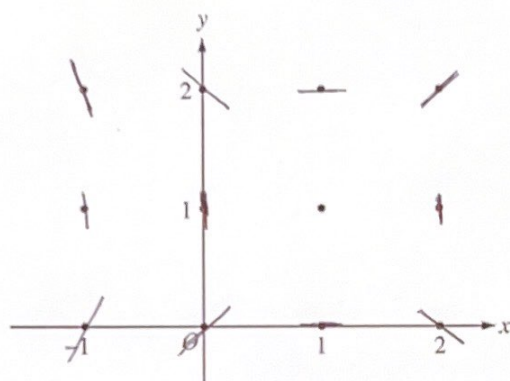
4. $\frac{dy}{dx} = x\sqrt{y}$

$(-1, 0) = 0$ $(-1, 2) = -\sqrt{2}$
 $(0, 0) = 0$ $(0, 2) = 0$
 $(1, 0) = 0$ $(1, 2) = \sqrt{2}$
 $(2, 0) = 0$ $(2, 2) = 2\sqrt{2}$
 $(-1, 1) = -1$
 $(0, 1) = 0$
 $(1, 1) = 1$
 $(2, 1) = 2$



5. $\frac{dy}{dx} = \frac{x-1}{y-1}$

$(-1, 0) = 2$ $(-1, 2) = -2$
 $(0, 0) = 1$ $(0, 2) = -1$
 $(1, 0) = 0$ $(1, 2) = 0$
 $(2, 0) = -1$ $(2, 2) = 1$
 $(-1, 1) = \text{und}$
 $(0, 1) = \text{und}$
 $(1, 1) = \text{indet., no line}$
 $(2, 1) = \text{und}$



6. $\frac{dy}{dx} = \frac{x-y}{y}$

$(-1, 2) = -\frac{3}{2}$
 $(0, 2) = -1$
 $(1, 2) = -\frac{1}{2}$
 $(-1, 1) = -2$
 $(0, 1) = -1$
 $(1, 1) = 0$
 $(-1, -1) = 0$
 $(0, -1) = -1$
 $(1, -1) = -2$
 $(-1, -2) = -\frac{1}{2}$
 $(0, -2) = -1$
 $(1, -2) = -\frac{3}{2}$

