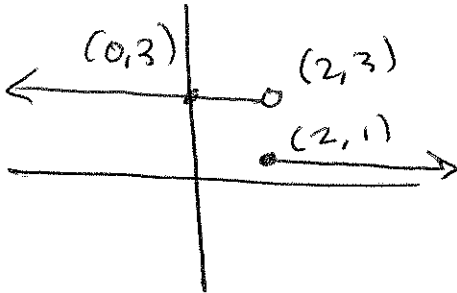
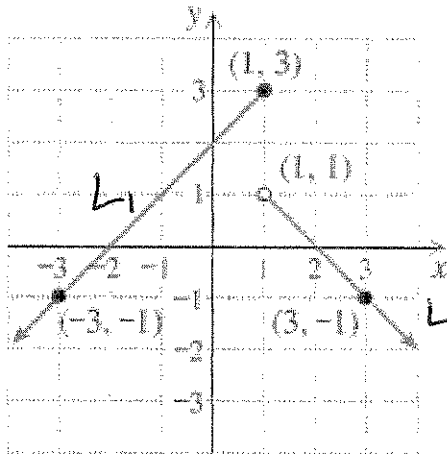


1. Sketch the graph of  $f(x) = \begin{cases} 3 & \text{for } x < 2 \\ 1 & \text{for } x \geq 2 \end{cases}$ . State its Domain and Range.



$D = (-\infty, \infty)$   
 $R = \{1, 3\}$

2. Write a piecewise function for the given graph.



$L_1: m = \frac{3 - (-1)}{1 - (-3)} = \frac{4}{4} = 1$

$y = 1(x - (-1)) - 3$

$y = x + 1 - 3 = x - 2$

$x \leq 1$

$L_2: m = \frac{-1 - 1}{3 - 1} = \frac{-2}{2} = -1$

$y = -1(x - 3) - 1$

$= -x + 3 - 1$

$= -x + 2$

$x > 1$

$f(x) = \begin{cases} x - 2 & \text{if } x \leq 1 \\ -x + 2 & \text{if } x > 1 \end{cases}$

3. Sketch the graph of  $y = 3|x - 2|$  by transforming a basic function.

