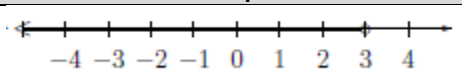
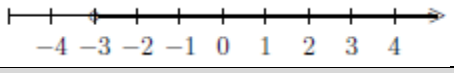
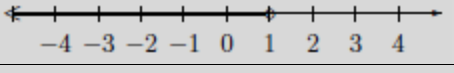
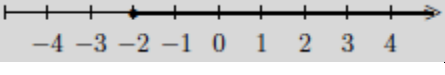
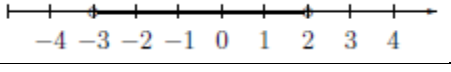
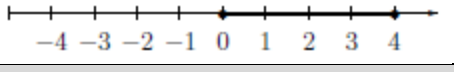
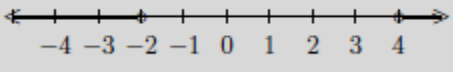
MAT090 – Chapter 1.5 – Notes – S12

Words	Symbols	Set Builder	Interval	Graph
x less than 3	$x < 3$	$\{x \mid x < 3\}$	$(-\infty, 3)$	
x greater than -3	Dfn: $x > -3$ Jay: $-3 < x$	$\{x \mid -3 < x\}$	$(-3, \infty)$	
x less than or equal to 1	$x \leq 1$	$\{x \mid x \leq 1\}$	$(-\infty, 1]$	
x greater than or equal to -2	Dfn: $x \geq -2$ Jay: $-2 \leq x$	$\{x \mid -2 \leq x\}$	$[-2, \infty)$	
x is between 3 **and** 2 (exclusive)	$-3 < x < 2$	$\{x \mid -3 < x < 2\}$	$(-3,2)$	
x is between 0 **and** 4 (inclusive)	$-0 \leq x \leq 4$	$\{x \mid 0 \leq x \leq 4\}$	$[0,4]$	
x is less than -2 **or** greater than 4	$x < -2 \text{ or } 4 < x$	$\{x \mid x < -2 \text{ or } 4 < x\}$	$(-\infty, -2)$ U $(4, \infty)$	
	*Greater than (>) can always be written as less than (<)	*Same as Symbols inside some funny brackets	*Only notation to use ∞ *Infinity always gets ( )	

Summary

Groups of Symbols		Number of Known Values	
<, >, ○, ( ), exclusive	End number not included	1 Number	
≤, ≥, ●, [ ], inclusive	End numbers included	2 Numbers