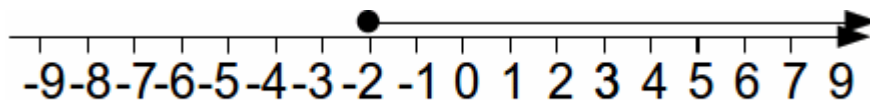


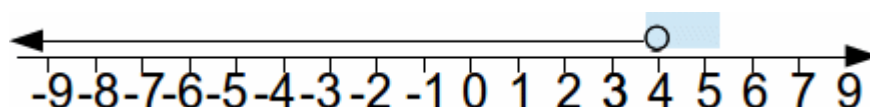
Directed Numbers

Directed numbers are inequalities that describe a set of numbers. The inequalities may be represented on a number line.

The diagram below represents the inequality $x \geq 2$. The filled in black circle at $x = 2$ indicates that 2 satisfies the inequality.



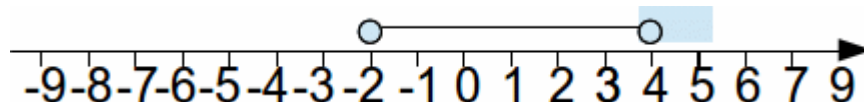
The diagram below represents the inequality $x < 4$. The white filled in circle at $x = 4$ indicates that $x = 4$ does not satisfy the inequality.



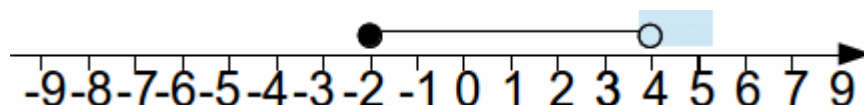
The above examples illustrate an important convention. If an inequality is written down and the value of x in the inequality is included, \leq or \geq signs are used.

We can also write down inequalities that indicate that numbers greater than (or equal to) some number and less than (or equal to some other number) are required.

The diagram below indicates that numbers greater than -2 but less than 4, written $-2 < x < 4$, are required:



The diagram below indicates that numbers greater than or equal to -2, written $-2 \leq x < 4$, but less than 4 are required:



The diagram below indicates that numbers greater than or equal to -2 and less than or equal to 4, written $-2 \leq x \leq 4$, are required:

