

Unit 8 Solving Equations & Inequalities

8.5 Representing Inequalities

Inequality – a mathematical statement comparing expressions that may not be equal

Inequality Symbols:

$<$ less than
 $>$ greater than
 $\leq$ less than or equal to
 $\geq$ greater than or equal to
 $\neq$ not equal to

$$8 < 10$$

We can express inequalities:

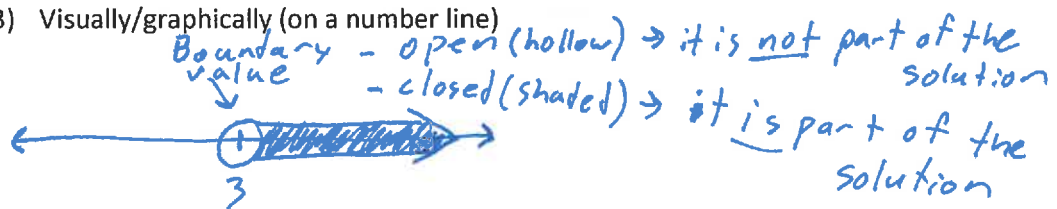
- 1) Verbally/written

ex. A number more than 3

- 2) Algebraically (with an inequality sign)

ex $x > 3$

- 3) Visually/graphically (on a number line)

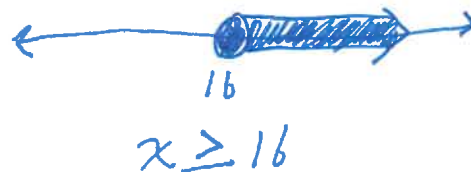


Ex. Show each statement graphically and algebraically:

- a) All numbers equal to at most -1 .



- b) You must be at least 16 years old to get a driver's license.



Ex. State each inequality shown in words and algebraically:



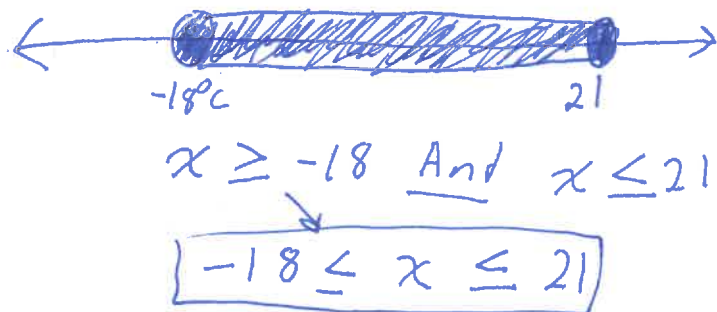
All numbers less than 1
 $x < 1$



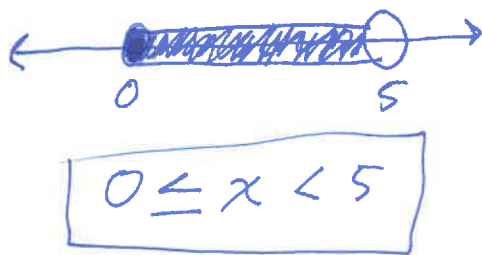
All numbers -2 or more
 $x \geq -2$

Combination (compound) Inequalities

Ex. The average temperature fluctuates from a low of -18°C to a high of 21°C .



Ex. $x < 5$ and $x \geq 0$



Note:

$x > 8$	x greater than 8	} same solution
$8 < x$	8 less than x	