# Section 6.3: Inequalities

An inequality is the same as an equation except for the equal sign. This symbol is replaced by one of the following four symbols:

(1) $<$ : less than

(2) $\leq$ : less than or equal to

(3) $>$ : greater than

(4) $\geq$ : greater than or equal to

These inequalities symbols in addition to variables are used to explain very basic word sentences.

(cx) Define a variable and write an inequality for each situation:

(A)

Speed Limit 100

Ans) Let $l$ = speed limit

$\therefore\ l \leq 100$

(B)

Height Restriction

- you must be at least 102 cm to get on this ride

Ans) Let $h$ = height

$\therefore\ h \geq 102$

Note: Just as we use coordinate grids to graph equations, we can also graph inequalities:

* (1) Inequalities (1 variable): Number Line.

(2) Inequalities (2 or more variables): x-y Grid

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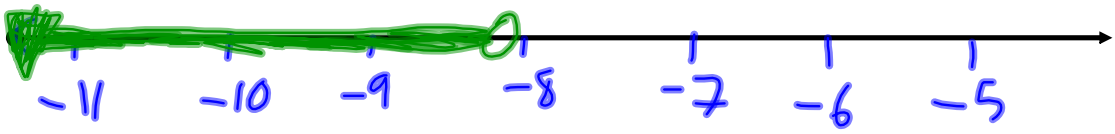
Example: (a) Graph the following inequality:

$$p < \frac{-25}{3}$$

(b) Write three more numbers that are a solution to the inequality.

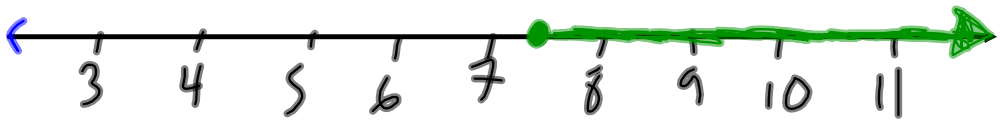



3 Numbers: $-9, -10, -11.5$

Example #2: (A) Graph the following $w \geq 7.4$

(B) Name 3 numbers that satisfy the inequality.

(ANS)




* 3 numbers are 8, 9.3, 10.99999

Homework:
p292-293
#4-6, 8, 9, 11, 12