

## 8.6 Write & Graph Inequalities

***Objective: To write and graph inequalities***



# Inequalities

Symbol	Name	Open or Closed Dot
=	Equal To	Closed
<	Less Than	Open
>	Greater Than	Open
●	Less Than OR Equal To	Closed
●	Greater Than OR Equal To	Closed

# Graphing Inequalities

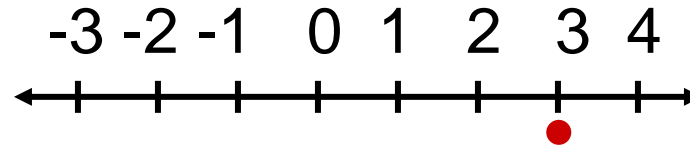
- 1) Isolate the variable
- 2) Determine if you have an open (not equal to) or **closed (equal to)** dot and place that dot on the number line
- 3) Determine which direction you need to shade to make the inequality true.

A good point to check is 0!!



# Examples

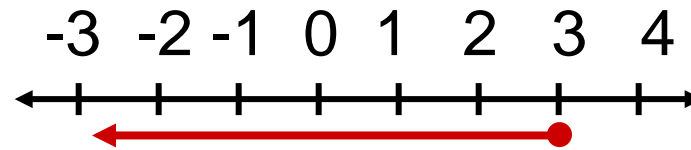
1)  $x = 3$



One Solution

2)  $x \leq 3$

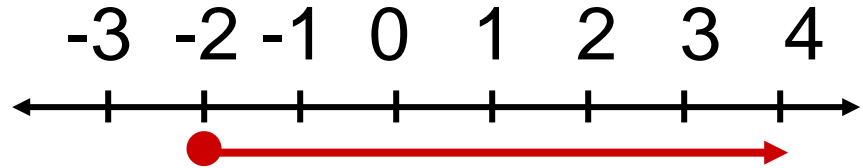
$$x \leq 3$$



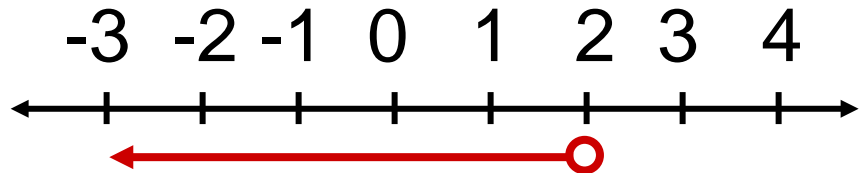
Infinite Solutions

# Graph the Inequalities

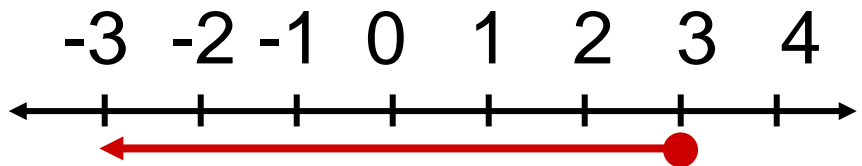
3)  $x \geq -2$



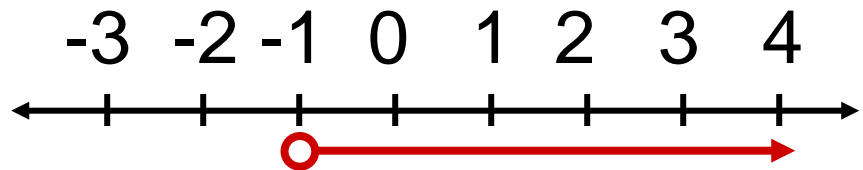
4)  $x < 2$



5)  $x \leq 3$



4)  $x > -1$



# Write Inequalities

1) Newport Whale Watching Tours reported seeing over 1250 common dolphins on Tuesday.

$d$  = Number of dolphins

$$d > 1250$$



2) Dr. Bertch wants to even out class sizes at GMS. She has decided that each class should have no more than 40 students, but at least 25 students. Write 2 inequalities to represent this situation.

$x$  = number of students

$$x \leq 40 \text{ AND } x \geq 25$$

$$0 \qquad 25 \qquad 40$$

