**6.3 – Linear Inequalities**

An **inequality** is used to model a situation that can be described by a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of numbers instead of just a single number (in which case we use an **equality**).

 Eg. An equality: The cost of admission is $5. ($5 is the only option)

 An inequality: You can spend up to $5 on the Secret Santa gift. (So can spend from

$0 – $5 and any amount in-between)

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| Inequality | Meaning | Key words/phrases |
|  | Less than |  |
|  | Less than or equal to |  |
|  | Greater than |  |
|  | Greater than or equal to |  |

Ex. 1: Define a variable and write an inequality to describe each situation.



1. (b) (c)

A linear equation (contains \_\_\_\_\_\_\_\_\_\_) has only \_\_\_\_\_\_\_\_\_\_\_\_ solution. A linear inequality (contains one of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_) has \_\_\_\_\_\_\_\_\_\_\_\_\_\_ solutions. We can illustrate the solutions of an inequality by graphing them on a number line.

Ex. 2: Graph each inequality and state 3 possible solutions.

1. $b>5$
2. $y\leq -1$
3. $-4\leq n$