

# INEQUALITIES

def

INEQUALITY: A MATHEMATICAL SENTENCE THAT COMPARES TWO QUANTITIES.

| SYMBOL | WORDS/PHRASE MEANING   | EXAMPLE                                    | GRAPH                |
|--------|--|--|----------------------|
|        | <ul style="list-style-type: none"> <li>- IS GREATER THAN</li> <li>- IS MORE THAN</li> <li>- IS ABOVE</li> </ul>                                | $8 > 4$<br>$x > 2$                         | <p>OPEN CIRCLE</p>   |
|        | <ul style="list-style-type: none"> <li>- IS LESS THAN OR EQUAL TO</li> <li>- AT MOST</li> <li>- NO MORE THAN</li> <li>- MAXIMUM</li> </ul>     | $7 \leq 10$<br>$10 \leq 10$<br>$x \leq 3$  | <p>CLOSED CIRCLE</p> |
|        | <ul style="list-style-type: none"> <li>- IS GREATER THAN OR EQUAL TO</li> <li>- AT LEAST</li> <li>- NO LESS THAN</li> <li>- MINIMUM</li> </ul> | $12 \geq 9$<br>$12 \geq 12$<br>$x \geq 15$ | <p>CLOSED CIRCLE</p> |
|        | <ul style="list-style-type: none"> <li>- IS NOT EQUAL TO</li> </ul>  | $2 \neq 3$<br>$x \neq 9$                   |                      |

○ = NUMBER NOT INCLUDED IN SOLUTION SET

● = NUMBER IS INCLUDED IN SOLUTION SET



IN AN EQUATION THERE IS ONLY 1 SOLUTION.

$$\begin{array}{r} x-2=3 \\ +2 \quad +2 \\ \hline \end{array}$$

$$x=5$$

$$\begin{array}{r} 5-2=3 \\ 3=3 \checkmark \end{array}$$

AN INEQUALITY HAS AN INFINITE # OF SOLUTIONS. IT HAS A SOLUTION SET.

$$x > 5 \quad \left\{ \begin{array}{l} 7, 15, 10, 20, 16, 12 \\ 22, 50, 100 \end{array} \right.$$

1)  $y > 8$

6

8

9

15

2)  $m \leq 525$

525

510

500

650

3)  $c < 22$

12

25

30

22

4)  $f \geq 80$

81

0

75

80

5)  $g \geq 27$

27

26

25

20

6)  $n < 16$

15

10

0

16