LESSON 66 SOLVING INEQUALITIES BY ADDING AND SUBTRACTING

SOLVING INEQUALITIES BY ADDING AND SUBTRACTING

Rule:
If you add the same number to both sides of an inequality the inequality remains true

If \( a > b \) then \( a + c > b + c \)
If \( a \geq b \) then \( a + c \geq b + c \)
If \( 6 > 4 \) then \( 6 + 2 > 4 + 2 \)
If \( 6 \geq 4 \) then \( 6 + 2 \geq 4 + 2 \)
If \( a < b \) then \( a + c < b + c \)
If \( a \leq b \) then \( a + c \leq b + c \)
If \( 2 < 7 \) then \( 2 + 3 < 7 + 3 \)
If \( 2 \leq 7 \) then \( 2 + 3 \leq 7 + 3 \)

Solve the inequality \( x + 2 > 5 \) and then graph the solution

\[
x + 2 > 5 \\
x + 2 - 2 > 5 - 2 \\
x > 3
\]

subtract 2 from both sides
simplify
Note the open dot?

Solve the inequality \( x - 4 \leq -1 \)

\[
x - 4 \leq -1 \\
x - 4 + 4 \leq -1 + 4 \\
x \leq 3
\]

add 4 to both sides
simplify
Note the closed dot?