

Section 6.4:

Solving Linear Inequalities using Addition/Subtraction

Complete Investigation Worksheet

Part A: Add a Positive/Negative Number

Operation	$-4 < -2$	$6 > 2$
ADD a positive number to each side of the inequality		
ADD a negative number to each side of the inequality		

Do the inequalities hold true? _____

Part B: Subtract a Positive/Negative Number

Operation	$-4 < -2$	$6 > 2$
SUBTRACT a positive number to each side of the inequality		
SUBSTARCT a negative number to each side of the inequality		

Do the inequalities hold true? _____

SUMMARY OF INEQUALITIES

A. When you **ADD** a positive number to each side of an inequality

When you **ADD** a negative number to each side of an inequality

B. When you **SUBTRACT** a positive number to each side of an inequality

When you **SUBTRACT** a negative number to each side of an inequality

**When adding or subtracting to solve an inequality,
it is the exact same as solving an equation.**

Example 1:

Solve the inequality, verify the solution and graph on a number line:

$$6.2 \leq x - 4.5$$

Solve:

Verify:

Graph: 

Example 2:

Solve and graph: $4.8 + c > -3.2$

Example 3:

Jake plans to board his dog while he is away on vacation.

- Boarding House A charges \$90 plus \$5 per day
- Boarding House B charges \$100 plus \$4 per day

For how many days must Jake board his dog in House A to be less expensive than House B?

a) choose a variable and write an inequality

b) Solve the problem

c) Graph 