

7.5A WRITING & SOLVING INEQUALITIES

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Guided Notes

An **inequality** is a mathematical \quad that \quad expressions. It contains the symbols \quad . To write an inequality, look for the following phrases to determine where to place the inequality symbol.

Inequality Symbols				
Symbol	$<$	$>$	\leq	\geq
Key Phrases	• •	• •	• • •	• • •

EXAMPLE 1 Writing Inequalities

Write the word sentence as an inequality.

- a. A number c is less than -4 .

••• An inequality is

- b. A number k plus 5 is greater than or equal to 8.

••• An inequality is

- c. Four times a number q is at most 16.

••• An inequality is

Reading



The inequality $g > 2$ is the same as $2 < g$.

A **solution of an inequality** is a _____ that makes the inequality _____. An inequality can have _____ than _____ solution. The _____ solutions of an inequality is called the **solution set**.

2

Value of x	$x + 3 \leq 7$	Is the inequality true?

Reading



The symbol \nless means *is not less than or equal to*.

EXAMPLE 2 Checking Solutions

Tell whether the given value is a solution of the inequality.

a. $x + 1 > 7$; $x = 8$

Write the _____

Substitute for _____

So,

b. $7y < 27$; $y = 4$

Write the _____

Substitute for _____

So,

c. $\frac{z}{3} \geq 5; z = 15$

3

Write the _____

Substitute for . _____

 So,

c. $\frac{z}{3} \geq 5; z = 15$

3

Write the _____

Substitute for . _____

 So,