Unit: Equations & Inequalities
Student Handout 7

Name _____

Date _____ Pd _____

SOLVING INEQUALITIES

SOLVING ONE-STEP INEQUALITIES

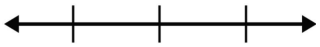
- Inequalities can be solved by following the same steps as equations.
  - The _____ must be alone or _____ on one side of the inequality.
  - Isolate the variable by using _____ or opposite operations.
  - Whatever you do to one side, you must do to the _____.

Solve each inequality, check your answer, and then graph the solution.

1. $n + 5 \leq 16$

_____

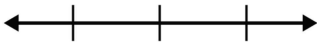
CHECK & GRAPH:



2. $c - 9 > 14$

_____

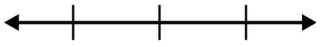
CHECK & GRAPH:



3. $12g < 48$

_____

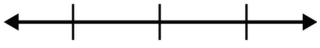
CHECK & GRAPH:



4. $4q \geq 7g$

_____

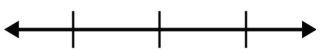
CHECK & GRAPH:



5. $\frac{p}{3} > q$

_____

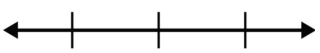
CHECK & GRAPH:



6. $33 \geq x + 19$

_____

CHECK & GRAPH:



Solve the inequalities below for practice. Roll a pair of dice and find the sum of the two numbers showing. Solve that problem.

	SOLVE	SOLUTION
2	$7x \geq 35$	
3	$x + 6.8 < 11.2$	
4	$x - 5 > 16.7$	
5	$x + 14 \leq 16$	
6	$8 \geq x - 3$	
7	$7 \leq 2x$	
8	$\frac{x}{8} > 3$	
9	$\frac{x}{2} < 3.5$	
10	$18 < x + 11$	
11	$6x \geq 108$	
12	$x - 7 \leq 45$	

SHOW WORK HERE:

Use your understanding of solving inequalities to answer the questions below.

7. Kevin was asked to place a check mark next to any inequality in which $x = 5$ is a true statement. Check over his work and correct any mistakes.

QUESTION #1	QUESTION #2	QUESTION #3
✓ $25 < 5x$	✓ $x - 3 \leq 8$	✓ $30 \leq 6x$

8. Each of the students below made a statement about the inequality, $72 > 8x$. Which student(s) made a true statement?

CASSIE
You can rewrite the problem to be $8x > 72$.

DON
The solution will be $x > 9$.

JOSIE
5 is part of the solution set.

Summarize today's lesson:

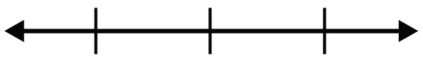
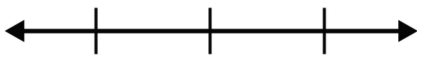
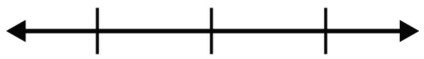
Unit: Equations & Inequalities
Homework 7

Name _____

Date _____ Pd _____

SOLVING INEQUALITIES

Solve the following one-step inequalities, check your work, and graph the solution.

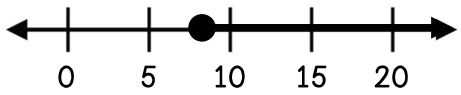
1.	2.	3.
$3x < 54$	$\frac{x}{4} \geq 11$	$x - 7 > 29$
_____	_____	_____
✓ CHECK:	✓ CHECK:	✓ CHECK:
		

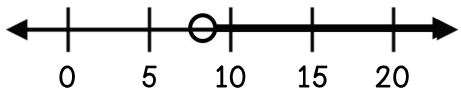
Use your understanding of inequalities to answer the questions below.

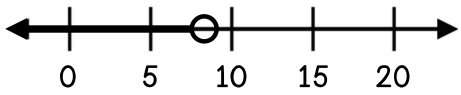
4. Which inequality is true when $x = 4$?

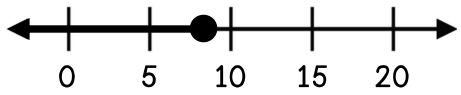
A. $x + 5 \leq 3$ B. $9x > 36$ C. $\frac{x}{2} < 3$ D. $18 \leq x - 8$

5. Jasmine solves the equation $15x > 120$. Which number line below represents the solution set?

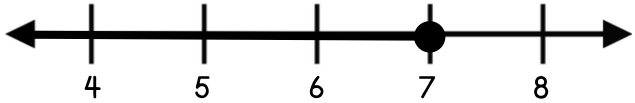
A. 

B. 

C. 

D. 

6. The number line below represents the solution set to which inequality?



A. $16 + x < 23$ B. $5x \geq 35$

C. $x - 3 \leq 4$ D. $\frac{x}{2} > 3.5$