Unit 6: Inequalities Name: _____

Lesson 3: Solving Multiple-Step Inequalities Hour: _____

es 6.3

Is it a Solution?

Tell whether the given number is a solution of $3x - 5 \leq 3$

1. 5 $3(5)-5 \leq 3$, $15-5 \leq 3$, $10 \leq 3$ NO

2. 0 $3(0)-5 \leq 3$, $0-5 \leq 3$, $-5 \leq 3$ yes

3. -1 $3(-1)-5 \leq 3$, $-3-5 \leq 3$, $-8 \leq 3$ yes

4. 4 $3(4)-5 \leq 3$, $12-5 \leq 3$, $7 \leq 3$ NO

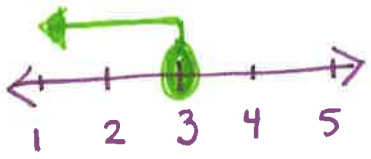
Solving Multiple-Step Inequalities and Graphing the Solution

1. $\frac{5x-3}{3} \geq 6$ (2) (3)

$12 \geq 5x-3$ (+3 +3)

$\frac{15}{5} \geq \frac{5x}{5}$

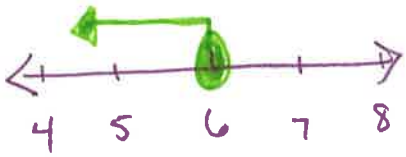
$3 \geq x$



2. $5y + 2 \leq 32$ (-2 -2)

$\frac{5y}{5} \leq \frac{30}{5}$

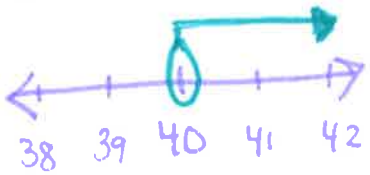
$y \leq 6$



3. $\frac{x}{-2} + 6 < -14$ (-6 -6)

$(-2)\frac{x}{-2} < -20(-2)$

$x > 40$



* Switch the sign

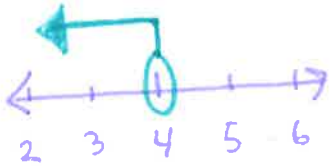
4. $-8x - 2(-7x - 7) < 38$

$-8x + 14x + 14 < 38$

$6x + 14 < 38$ (-14 -14)

$\frac{6x}{6} < \frac{24}{6}$

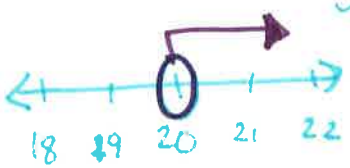
$x < 4$



5. $-3x - 3 < -63$ (+3 +3)

$\frac{-3x}{-3} < \frac{-60}{-3}$

$x > 20$



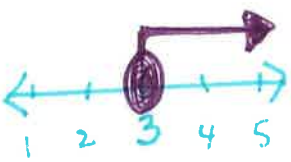
6. $-(x + 5) - 6(3 - 3x) \geq 28$

$-x - 5 - 18 + 18x \geq 28$

$17x - 23 \geq 28$ (+23 +23)

$\frac{17x}{17} \geq \frac{51}{17}$

$x \geq 3$



Homework: What is the First Thing You Should Do to Become a Mattress Maker? Wkst.

Adapted: