

Class/Homework

Copy questions from the smartboard and complete. Solve and Graph

1) $-5 \leq x \leq 25$

$x \geq -5$



2) $7a < -21$

$a < -3$



3) $\frac{y}{-4} > -3$

$y < 12$



4) $\frac{k}{5} \geq -2^3$

$k \geq -6$



5) $\frac{y}{-2} \leq 2.5^{x-2}$

$y \geq -5$



6) $-3x < -12$

$\frac{-3}{x} > 4^{-3}$



7) $-2x \geq -5$

$x \leq \frac{5}{2}$
 $x \leq 2.5$



8) $-4x - 2 < 10$

$x > -3$



9) $\frac{x}{2} + 3 < 9$

$x < 12$



10) $\frac{x}{2} + 3 \geq 3$

$x \geq 0$



Solving a Multi-Step Inequality

1) $-1.6n - 5 > 4.1n + 10.96$ Step 1) Bring all letters to one side and number to the other.

$$-1.6n - 5 + 5 > 4.1n + 10.96 + 5 \quad \text{Add 5 to each side}$$

$$-1.6n > 4.1n + 15.96$$

$$-1.6n - 4.1n > 4.1n - 4.1n + 15.96 \quad \text{Subtract 4.1n from each side.}$$

$$-5.7n > 15.96 \quad \text{Step 2) Divide each side by the number in front of the letter.}$$

$$\frac{-5.7n}{-5.7} < \frac{15.96}{-5.7} \quad \text{Divide each side by "-5.7" and since negative reverse the sign.}$$

$$n < -2.8$$

The solution is all numbers smaller than -2.8

Check your work

Choose a number less than -2.8.....-3

Substitute $n = -3$ into the original inequality

See if the left hand side is greater than the right hand side

$$-1.6n - 5 > 4.1n + 10.96$$

Left hand side

Right hand side

$$-1.6n - 5$$

$$4.1n + 10.96$$

$$-1.6(-3) - 5$$

$$4.1(-3) + 10.96$$

$$4.8 - 5$$

$$-12.3 + 10.96$$

$$-0.2$$

$$-1.34$$

$$-0.2 > -1.34 \quad \checkmark$$

You Try

Solve each inequality, and graph

1) $4x - 2 > 10$

2) $-15 - 4x \leq 3x + 6$

3) $8m - 2 \geq 13 + 5m$

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Page 305 - 306

#7 no verification !

#9