hw # 34 - standard 21 - Solve multi step inequalities filled in

Name: Key Show work needed to justify your answer. Date: _____

HW # 34: Algebra 1 - Standard 21 - Solve Multi-Step Inequalities 5 points

Solve each inequality. Then graph the solution on a number line.

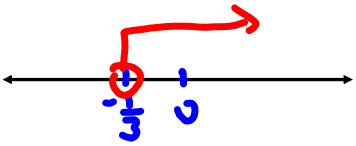
16. $-3(7n + 3) < 6n$

$-21n - 9 < 6n$

$+21n \quad +21n$

$\frac{-9}{27} < \frac{27n}{27}$

$-\frac{1}{3} < n$



17. $21 \geq 3(a - 7) + 9$

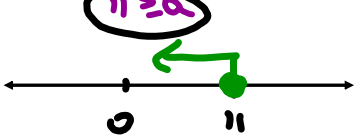
$21 \geq 3a - 21 + 9$

$21 \geq 3a - 12$

$+12 \quad +12$

$\frac{33}{3} \geq \frac{3a}{3}$

$11 \geq a$



18. $2y + 4 > 2(3 + y)$

$2y + 4 > 6 + 2y$

$-2y \quad -2y$

$4 > 6$ False

No Solution

19. $3(2 - b) < 10 - 3(b - 6)$

$6 - 3b < 10 - 3b + 18$

$6 - 3b < 28 - 3b$

$+3b \quad +3b$

$6 < 28$ True!

All Real #s

20. $7 + t \leq 2(t + 3) + 2$

$7 + t \leq 2t + 6 + 2$

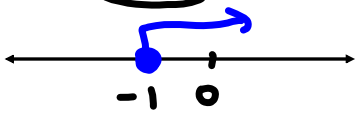
$7 + t \leq 2t + 8$

$-1t \quad -1t$

$7 \leq t + 8$

$-8 \quad -8$

$-1 \leq t$



21. $8a + 2(1 - 5a) \leq 20$

$8a + 2 - 10a \leq 20$

$-2a + 2 \leq 20$

$-2 \quad -2$

$\frac{-2a}{-2} \leq \frac{18}{-2}$

$a \geq -9$

Translate each sentence into an inequality. Then solve the inequality

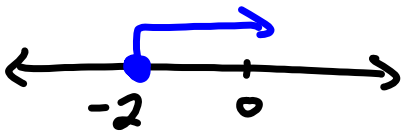
6. Five times a number minus one is greater than or equal to negative eleven.

$5x - 1 \geq -11$

$+1 \quad +1$

$\frac{5x}{5} \geq \frac{-10}{5}$

$x \geq -2$



12. Eight minus a number divided by three is greater than or equal to eleven.

$8 - \frac{1x}{3} \geq 11$

$-8 \quad -8$

$-\frac{3}{1}\left(-\frac{1}{3}\right)x \geq 3(-3)$

$x \leq -9$

switch symbol when multiplying by a negative.

13. Negative five-fourths times a number plus six is less than twelve.

$-\frac{5}{4}x + 6 < 12$

$-6 \quad -6$

$-\frac{5}{4}x < 6$

$\left(-\frac{4}{5}\right)\left(-\frac{5}{4}x\right) < \left(-\frac{4}{5}\right)(6)$

$x > -\frac{24}{5}$