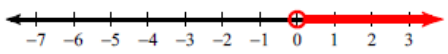
Math 1 Name_____

Unit 1.7 Solving Multi-Step Inequalities

Period____

Solve each inequality. Graph its solution. Write the interval notation.

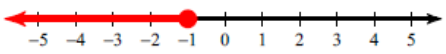
1) $0 < -n + 4n$



$n > 0$

interval notation: $(0, \infty)$

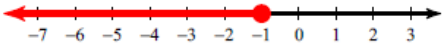
2) $3 \leq -2n - n$



$n \leq -1$

interval notation: $(-\infty, -1]$

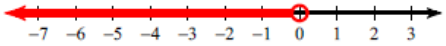
3) $7 \leq -4r - 3r$



$r \leq -1$

interval notation: $(-\infty, -1]$

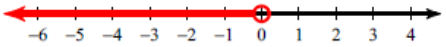
4) $0 < -n - 3n$



$n < 0$

interval notation: $(-\infty, 0)$

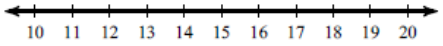
5) $1 > 1 + 2n + n$



$n < 0$

interval notation: $(-\infty, 0)$

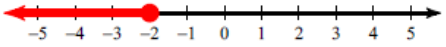
6) $4 \leq -2b + 2b$



No solution.

interval notation: none

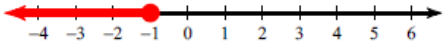
7) $-8 \geq n + 3n$



$n \leq -2$

interval notation: $(-\infty, -2]$

8) $-7 \geq -r - 4 + 4r$



$r \leq -1$

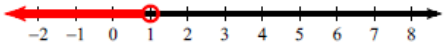
interval notation: $(-\infty, -1]$

9) $2 > 2 + 2a + 4a$

$a < 0$

interval notation: $(-\infty, 0)$

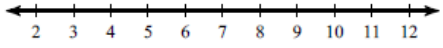
10) $-5 < -2b - 3b$



$b < 1$

interval notation: $(-\infty, 1)$

11) $4 \leq x + 2 - x$



No solution.

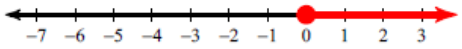
interval notation: none

12) $1 < 3n - 3 + n$

$n > 1$

interval notation: $(1, \infty)$

13) $-4x - 2(-2x - 1) \geq 2(1 - 3x)$

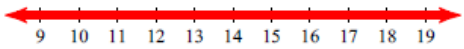


$x \geq 0$ *interval notation*: $[0, \infty)$

14) $-4(2 - n) < -3(2n - 3) + 3$

$n < 2$ *interval notation*: $(-\infty, 2)$

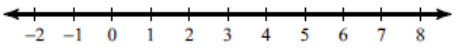
15) $-2a - 3a < 2(4 - a) - 3(a - 3)$



{ All real numbers. }

interval notation: $(-\infty, \infty)$

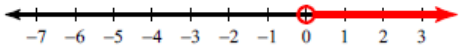
16) $2(1 + r) < 2(r + 3) - 4$



No solution.

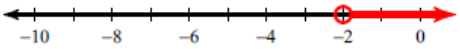
interval notation: *none*

17) $2(1 + x) < -2 + 4(1 + 2x)$



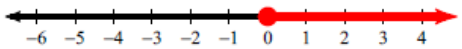
$x > 0$ *interval notation*: $(0, \infty)$

18) $4(b + 1) > -2(b + 4)$



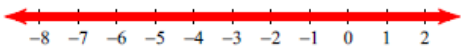
$b > -2$ *interval notation*: $(-2, \infty)$

19) $-2(x - 1) \leq -3x + 2(x + 1)$



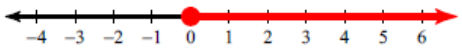
$x \geq 0$ *interval notation*: $[0, \infty)$

20) $-2(1 + 3x) + 4 \leq 2(1 - 3x)$



{ All real numbers. } *interval notation*: $(-\infty, \infty)$

21) $-3 - 3(1 + 3b) \geq 2 - 4(2 + 3b)$

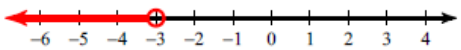


$b \geq 0$ *interval notation*: $[0, \infty)$

22) $-3(m + 1) \geq m - (3 + 4m)$

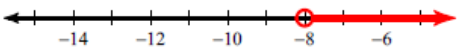
{ All real numbers. } *interval notation*: $(-\infty, \infty)$

23) $-2(p - 2) - 4 > -p + 3(p + 4)$



$p < -3$ *interval notation*: $(-\infty, -3)$

24) $-2(3 - v) < 2 + 2(2v + 4)$



$v > -8$ *interval notation*: $(-8, \infty)$