

Name _____ Date _____ Period _____

Kuta Software - Infinite Pre-Algebra
Solving Multi-Step Inequalities

Solve each inequality and graph its solution.

1) $0 < 2p + 3p$
 $0 < 5p$
 $0 < p$

3) $0 \geq -3x - x$
 $0 \geq -4x$
 $0 \leq x$

5) $-4p - 6p < 10$
 $-10p < 10$
 $p > -1$

7) $22 + 2x \leq -4x + 6(5 + x)$

$32 + 2x \leq -4x + 30 + 6x$

$32 + 2x \leq 2x + 30$

$32 \leq 30$

NO SOLUTION

2) $-14 > -a + 4 - 5a$

$-18 > -6a$
 $3 < a$

4) $-2a - a \geq -12$

$-3a \geq -12$
 $a \leq 4$

6) $5x + 4x > 18$

$9x > 18$
 $x > 2$

8) $-6x + 14 \leq -4(1 + 6x)$

$-6x + 14 \leq -4 - 24x$

$18x \leq -18$
 $x \leq -1$

$x \leq -1$
 $x \leq -1$

9) $28 - 7x > -4(6 + 5x)$

$28 - 7x > -24 - 20x$
 $13x > -52$
 $x > -4$

11) $-5n - 26 \leq 6(-7n + 8)$

$-5n - 26 \leq -42n + 48$
 $37n \leq 74$
 $n \leq 2$

13) $6n - 14 \geq -2(n + 7)$

$6n - 14 \geq -2n - 14$
 $8n \geq 0$
 $n \geq 0$

15) $-6n - (4 - 9n) \geq 4(n - 5)$

$-6n - 4 + 9n \geq 4n - 20$
 $3n - 4 \geq 4n - 20$
 $-16 \geq n$

17) $-12(-3 - 2r) < 7(r + 10)$

$36 + 24r < 7r + 70$
 $17r < 34$
 $r < 2$

10) $-8 + n > -(1 - 2n)$

$-8 + n > -1 + 2n$
 $-7 > n$

12) $2v - 4 \leq -4(1 + 8v)$

$2v - 4 \leq -4 - 32v$
 $34v \leq 0$
 $v \leq 0$

14) $35 + x < -5(x - 6) - 7$

$35 + x < -5x + 30 - 7$
 $35 + x < -5x + 23$
 $6x < -12$
 $x < -2$

16) $-2(1 - m) \leq -4(-m - 8)$

$-2 + 2m \leq 4m + 32$
 $-34 \leq 2m$
 $-17 \leq m$

18) $-10(v - 12) < -10(-2v + 9)$

$-10v + 120 < 20v - 90$
 $210 < 30v$
 $7 < v$