

↪ means opposite operation
Inequalities
 Solving Inequalities That Included Negatives

Name: _____

Directions: Solve each inequality.

multiply or divide by negative
FLIP

1. $5x - 4 \geq 26$
 $\downarrow +4$
 $5x \geq 30$
 $\downarrow \div 5$
 $x \geq 6$

2. $-7x + 2 \geq 23$
 Flip
 $\downarrow -2$
 $-7x \geq 21$
 $\downarrow \div -7$
 $x \leq -3$

3. $-8x + 9 \leq -71$
 Flip
 $\downarrow -9$
 $-8x \leq -80$
 $\downarrow \div -8$
 $x \geq 10$

4. $x - 12 > 34$
 $\downarrow +12$
 $x > 46$

5. $-9 + x < 19$
 $\downarrow +9$
 $x < 28$

6. $-x + 3 > 24$ Flip
 $\downarrow -3$
 $-x > 21$
 $\downarrow \div -1$
 $x < -21$

7. $-4x - 10 \leq 10$
 Flip
 $\downarrow +10$
 $-4x \leq 20$
 $\downarrow \div -4$
 $x \geq -5$

8. $9x - 8 \geq -26$
 $\downarrow +8$
 $9x \geq -18$
 $\downarrow \div 9$
 $x \geq -2$

9. $9x - 9 \geq -18$
 $\downarrow +9$
 $9x \geq -9$
 $\downarrow \div 9$
 $x \geq -1$

10. $\frac{x}{12} - 8 < -5$
 $\downarrow +8$
 $\frac{x}{12} < 3$
 $\downarrow \cdot 12$
 $x < 36$

11. $-\frac{x}{18} + 9 < 7$
 $\downarrow -9$
 $-\frac{x}{18} < -2$
 Flip
 $\downarrow \cdot 18$
 $x > 36$

12. $14 - x > 2$ Flip
 $\downarrow -14$
 $-x > -12$
 $\downarrow \div -1$
 $x < 12$

13. $-x + 8 \leq 24$ Flip
 $\downarrow -8$
 $-x \leq 16$
 $\downarrow \div -1$
 $x \geq -16$

14. $-5x - 11 < 29$ Flip
 $\downarrow +11$
 $-5x < 40$
 $\downarrow \div -5$
 $x > -8$

15. $\frac{x}{-3} + 6 < -2$
 $\downarrow -6$
 $\frac{x}{-3} < -8$
 $\downarrow \cdot -3$
 $x > 24$

16. $9x - 7 \geq -106$
 $\downarrow +7$
 $9x \geq -99$
 $\downarrow \div 9$
 $x \geq -11$

17. $\frac{x}{9} + 7 < 10$
 $\downarrow -7$
 $\frac{x}{9} < 3$
 $\downarrow \cdot 9$
 $x < 27$

18. $x - 9 \leq -4$
 $\downarrow +9$
 $x \leq 5$

19. $\frac{x}{-5} + 9 < 12$
 $\downarrow -9$
 $\frac{x}{-5} < 3$
 $\downarrow \cdot -5$
 $x > -15$

20. $24 + x \geq -6$
 $\downarrow -24$
 $x \geq -30$

21. $-15x - 4 > 41$
 Flip
 $\downarrow +4$
 $-15x > 45$
 $\downarrow \div -15$
 $x < -3$

22. $9 - x \geq 15$
 Flip
 $\downarrow -9$
 $-x \geq 6$
 $\downarrow \div -1$
 $x \leq -6$

23. $-x + 12 < 20$
 Flip
 $\downarrow -12$
 $-x < 8$
 $\downarrow \div -1$
 $x > -8$

24. $12x - 9 \geq -69$
 $\downarrow +9$
 $12x \geq -60$
 $\downarrow \div 12$
 $x \geq -5$

* CANT have negative letter