

Solving Inequality Using Multiplication or Division

1) $-15x \geq 7$

2) $7x < 7$

3) $-9x \geq 12$

4) $4x < 2$

5) $-12x \geq 7$

6) $-8x \geq 20$

7) $-5x > 11$

8) $-10x \geq 16$

9) $-15x < 3$

10) $5x < 5$

11) $-5x < 15$

12) $-6x < 10$

13) $-14x < 6$

14) $-8x \leq 20$

$$15) -4x \leq 9$$

$$16) -15x < 7$$

$$17) 15x < 10$$

$$18) 5x < 3$$

$$19) -10x \leq 16$$

$$20) 10x > 5$$

$$21) 2x > 7$$

$$22) -9x \leq 7$$

$$23) 4x < 9$$

$$24) \frac{-2x}{3} \leq 2$$

$$25) 6 \leq \frac{-3}{5} w$$

$$26) \frac{x}{2} < -1$$

$$27) -20 > -5c$$

Answer Key

Solving Inequality Using Multiplication or Division

$$1) \quad -15x \geq 7$$
$$\frac{-15x}{-15} \leq \frac{7}{-15} \quad \text{divide both sides by } -15$$

$$x \leq \frac{-7}{15} \quad \text{simplification}$$

$$2) \quad 7x < 7$$
$$\frac{7x}{7} < \frac{7}{7} \quad \text{divide both sides by } 7$$

$$x < 1 \quad \text{simplification}$$

$$3) \quad -9x \geq 12$$
$$\frac{-9x}{-9} \leq \frac{12}{-9} \quad \text{divide both sides by } -9$$

$$x \leq \frac{-4}{3} \quad \text{simplification}$$

$$4) \quad 4x < 2$$
$$\frac{4x}{4} < \frac{2}{4} \quad \text{divide both sides by } 2$$

$$x < \frac{1}{2} \quad \text{simplification}$$

$$5) \quad -12x \geq 7$$
$$\frac{-12x}{-12} \leq \frac{7}{-12} \quad \text{divide both sides by } -12$$

$$x \leq \frac{-7}{12} \quad \text{simplification}$$

$$6) \quad -8x \geq 20$$
$$\frac{-8x}{-8} \leq \frac{20}{-8} \quad \text{divide both sides by } -8$$

$$x \leq \frac{-5}{2} \quad \text{simplification}$$

$$7) \quad -5x > 11$$
$$\frac{-5x}{-5} < \frac{11}{-5} \quad \text{divide both sides by } -5$$

$$x < \frac{-11}{5} \quad \text{simplification}$$

$$8) -10x \geq 16$$
$$\frac{-10x}{-10} \leq \frac{16}{-10} \quad \text{divide both sides by } -10$$

$$x \leq \frac{-8}{5} \quad \text{simplification}$$

$$9) -15x < 3$$
$$\frac{-15x}{-15} > \frac{3}{-15} \quad \text{divide both sides by } -15$$

$$x > \frac{-1}{5} \quad \text{simplification}$$

$$10) 5x < 5$$
$$\frac{5x}{5} < \frac{5}{5} \quad \text{divide both sides by } 5$$

$$x < 1 \quad \text{simplification}$$

$$11) -5x < 15$$
$$\frac{-5x}{-5} > \frac{15}{-5} \quad \text{divide both sides by } -5$$

$$x > -3 \quad \text{simplification}$$

$$12) -6x < 10$$
$$\frac{-6x}{-6} > \frac{10}{-6} \quad \text{divide both sides by } -6$$

$$x > \frac{-5}{3} \quad \text{simplification}$$

$$13) -14x < 6$$
$$\frac{-14x}{-14} > \frac{6}{-14} \quad \text{divide both sides by } -14$$

$$x > \frac{-3}{7} \quad \text{simplification}$$

$$14) -8x \leq 20$$
$$\frac{-8x}{-8} \geq \frac{20}{-8} \quad \text{divide both sides by } -8$$

$$x \geq \frac{-5}{2} \quad \text{simplification}$$

$$15) -4x \leq 9$$

$$\frac{-4x}{-4} \geq \frac{9}{-4}$$

divide both sides by -4

$$x \geq \frac{-9}{4}$$

simplification

16) $-15x < 7$

$$\frac{-15x}{-15} < \frac{7}{-15}$$

divide both sides by -15

$$x > \frac{-7}{15}$$

simplification

17) $15x < 10$

$$\frac{-15x}{-15} < \frac{10}{-15}$$

divide both sides by -15

$$x > \frac{-2}{3}$$

simplification

18) $5x < 3$

$$\frac{5x}{5} < \frac{3}{5}$$

divide both sides by 5

$$x < \frac{3}{5}$$

simplification

19) $-10x \leq 16$

$$\frac{-10x}{-10} \geq \frac{16}{-10}$$

divide both sides by -10

$$x \geq \frac{-8}{5}$$

simplification

20) $10x > 5$

$$\frac{10x}{10} > \frac{5}{10}$$

divide both sides by 10

$$x > \frac{1}{2}$$

simplification

21) $2x > 7$

$$\frac{2x}{2} > \frac{7}{2}$$

divide both sides by 2

$$x > \frac{7}{2}$$

simplification

22) $-9x \leq 7$

$$\frac{-9x}{-9} \geq \frac{7}{-9}$$

divide both sides by 9

$$x \geq \frac{-7}{9} \quad \text{simplification}$$

$$23) 4x < 9$$

$$\frac{4x}{4} < \frac{9}{4} \quad \text{divide both sides by 4}$$

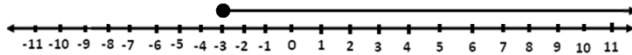
$$x < \frac{9}{4} \quad \text{simplification}$$

$$24) \frac{-2x}{3} \leq 2$$

$$\frac{-3}{2} \times \frac{-2x}{3} \geq 2 \times \frac{-3}{2} \quad \text{multiply both sides by } \frac{-3}{2}$$

$$x \geq -3 \quad \text{simplification}$$

$$\text{solution: } x \geq -3$$

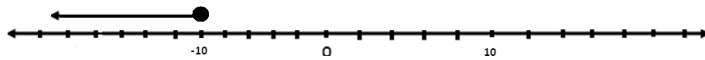


$$25) 6 \leq \frac{-3}{5} w$$

$$\frac{-5}{3} \times 6 \geq \frac{-5}{3} \times \frac{-3w}{5} \quad \text{multiply both sides by } \frac{-5}{3}$$

$$-10 \geq w \quad \text{simplification}$$

$$\text{solution: } w \leq -10$$

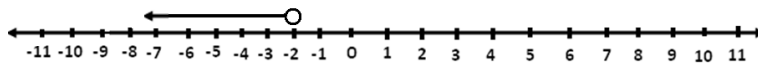


$$26) \frac{x}{2} < -1$$

$$2 \times \frac{x}{2} < -1 \times 2 \quad \text{multiply both sides by 2}$$

$$x < -2 \quad \text{simplification}$$

$$\text{solution: } x < -2$$



$$27) -20 > -5c$$

$$\frac{-20}{-5} < \frac{-5c}{-5} \quad \text{divide both sides by } -5$$

$$4 < c \quad \text{simplification}$$

$$\text{solution: } 4 < c$$

