Solving inequality using addition and subtraction

1) $x-7 \prec 10$

2) $x-9 \prec 7$

3) $x-8 \prec 7$

4) $x-11 \prec 5$

5) $x-9 \prec 5$

6) $x-15 \prec 3$

7) $x+7 \succ 3$

8) $x+3 \succ 5$

9) $x+13 \succ 9$

10) $x+2 \succ 7$

11) $x+4 \geq 7$

12) $x+7 \succ 4$

13) $x+2 \succ 5$

14) $x+4 \succ 5$

15) $x+10 \succ 2$

16) $x+3 \succ 15$

17) $x+11 \succ 5$

18) $x+12 \succ 10$

19) $x+8 \prec 4$

20) $x+9 \leq 6$

21) $x+7 \leq 9$

22) $x+2 \leq 5$

23) $x+9 \leq 3$

24) $x+6 \leq 4$

25) $x+8 \leq 5$

26) $x+2 \leq 9$

27) $x-3 \prec 5$

28) $12 \leq x-5$

29) $n-7 \leq -2$

30) $-4 \succ b-1$

31) $x+17 \succ 26$

32) $x-2 \succ 5$

33) $m+8 \prec 4$

34) $a+1 \succ 10$

35) $p-3 \geq 7$

36) $n-8 \prec 12$

Answer Key

Solving inequality using addition and subtraction

1) $x-7 \prec 10$

$x-7+7 \prec 10+7$ *add 7 on both sides*

$x \prec 17$ *simplification*

2) $x-9 \prec 7$

$x-9+9 \prec 7+9$ *add 9 on both sides*

$x \prec 16$ *simplification*

3) $x-8 \prec 7$

$x-8+8 \prec 7+8$ *add 8 to both sides*

$x \prec 15$ *simplification*

4) $x-11 \prec 5$

$x-11+11 \prec 5+11$ *add 11 on both sides*

$x \prec 16$ *simplification*

5) $x-9 \prec 5$

$x-9+9 \prec 5+9$ *add 9 on both sides*

$x \prec 14$ *simplification*

6) $x-15 \prec 3$

$x-15+15 \prec 3+15$ *add 15 on both sides*

$x \prec 18$ *simplification*

7) $x+7 \succ 3$

$x+7-7 \succ 3-7$ *subtract 7 from both sides*

$x \succ -4$ *simplification*

8) $x+3 \succ 5$

$x+3-3 \succ 5-3$ *subtract 3 from both sides*

$x \succ 2$ *simplification*

9) $x+13 \succ 9$

$x+13-13 \succ 9-13$ *subtract 13 from both sides*

$x \succ -4$ *simplification*

10) $x+2 \succ 7$

$x+2-2 \succ 7-2$ *subtract 2 from both sides*

$x \succ 5$ *simplification*

11) $x+4 \geq 7$

$x+4-4 \geq 7-4$ *subtract 4 from both sides*

$x \geq 3$ *simplification*

12) $x+7 \succ 4$

$x+7-7 \succ 4-7$ *subtract 7 from both sides*

$x \succ -3$ *simplification*

13) $x+2 \succ 5$

$x+2-2 \succ 5-2$ *subtract 2 from both sides*

$x \succ 3$ *simplification*

14) $x+4 \succ 5$

$x+4-4 \succ 5-4$ *subtract 4 from both sides*

$x \succ 1$ *simplification*

15) $x+10 \succ 2$

$x+10-10 \succ 2-10$ *subtract 10 from both sides*

$x \succ -8$ *simplification*

16) $x+3 \succ 15$

$x+3-3 \succ 15-3$ *subtract 3 from both sides*

$x \succ 12$ *simplification*

17) $x+11 \succ 5$

$x+11-11 \succ 5-11$ *subtract 11 from both sides*

$x \succ -6$ *simplification*

18) $x+12 \succ 10$

$x+12-12 \succ 10-12$ *subtract 12 from both sides*

$x \succ -2$ *simplification*

19) $x+8 \prec 4$

$x+8-8 \prec 4-8$ *subtract 8 from both sides*

$x \prec -4$ *simplification*

20) $x+9 \leq 6$

$x+9-9 \leq 6-9$ *subtract 9 form both sides*

$x \leq -3$ *simplification*

21) $x+7 \leq 9$

$x+7-7 \leq 9-7$ *subtract 7 from both sides*

$x \leq 2$ *simplification*

22) $x+2 \leq 5$

$x+2-2 \leq 5-2$ *subtract from both sides*

$x \leq 3$ *simplification*

23) $x+9 \leq 3$

$x+9-9 \le 3-9$ *subtract 9 from both sides*

$x \le -6$ *simplification*

24) $x+6 \le 4$

$x+6-6 \le 4-6$ *subtract 6 from both sides*

$x \le -2$ *simplification*

25) $x+8 \le 5$

$x+8-8 \le 5-8$ *subtract 8 from both sides*

$x \le -3$ *simplification*

26) $x+2 \le 9$

$x+2-2 \le 9-2$ *subtract 2 from both sides*

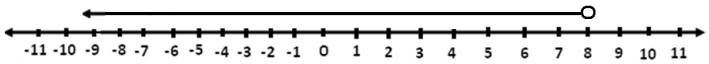
$x \le 7$ *simplification*

27) $x-3 \prec 5$

$x-3+3 \prec 5+3$ *add 3 on both sides*

$x \prec 8$ *simplification*

solution: $x \prec 8$

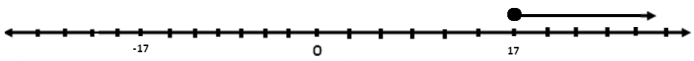


28) $12 \le x-5$

$12+5 \le x-5+5$ *add 5 on both sides*

$17 \le x$ *simplification*

solution: $x \ge 17$

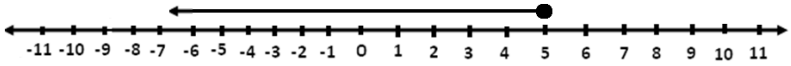


29) $n-7 \le -2$

$n-7+7 \le -2+7$ *add 7 on both sides*

$n \le 5$ *simplification*

solution: $n \le 5$

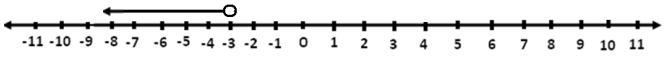


30) $-4 \succ b-1$

$-4+1 \succ b+1-1$ *add 1 on both sides*

$-3 \succ b$ *simplification*

solution: $b \prec -3$

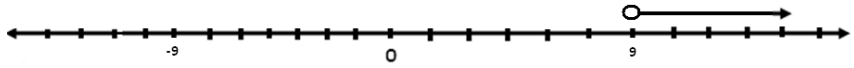


31) $x+17 \succ 26$

$x+17-17 \succ 26-17$ *subtract 17 from both sides*

$x \succ 9$ *simplification*

solution: $x \succ 9$

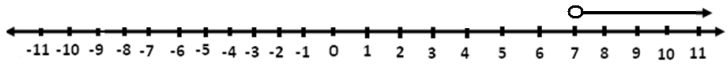


32) $x-2 \succ 5$

$x-2+2 \succ 5+2$ *add 2 on both sides*

$x \succ 7$ *smplification*

solution: $x \succ 7$

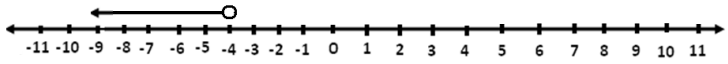


33) $m+8 \prec 4$

$m+8-8 \prec 4-8$ *subtract 8 from both sides*

$m \prec -4$ *simplification*

solution: $m \prec -4$

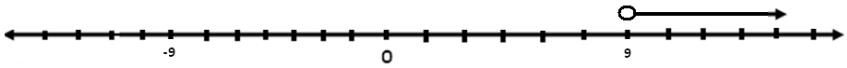


34) $a+1 \succ 10$

$a+1-1 \succ 10-1$ *subtract 1 from both sides*

$a \succ 9$ *simplificaton*

solution: $a \succ 9$

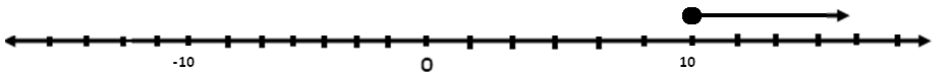


35) $p-3 \geq 7$

$p-3+3 \geq 7+3$ *add 3 on both sides*

$p \geq 10$ *simplification*

solution: $p \geq 10$



36) $n-8 \prec 12$

$n-8+8 \leq 12+8$ *add 8 on both sides*

$n \leq 20$ *simplification*

solution: $n \leq 20$