Solving Multi-Steps Inequality

1) $5+2x \prec 20$

2) $-5x+12 \prec -8$

3) $4x+1 \succ 1$

4) $7 \geq 5x-3$

5) $\frac{-x}{2}+6 \prec -14$

6) $10 \succ 6+\frac{y}{3}$

7) $6 + y \geq 2y - 3$

8) $5y + 2 \leq y + 34$

9) $2y + 7 \succ 11$

10) $6n - 3 \leq -9$

11) $11 - 4z \prec -1$

12) $3m - 8 \succ -30 + 5m$

13) $19 \geq \frac{x}{90} - 25$

14) $3+\frac{b}{3} \prec 7$

15) $14p-5 \geq -3p+114$

16) $-3x-3 \prec 2x-83$

Answer Key

Solving Multi-Steps Inequality

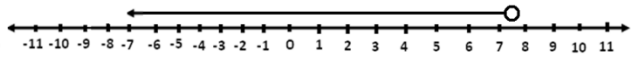
1) $5+2x \prec 20$

$2x \prec 20-5$

$2x \prec 15$

$x \prec \frac{15}{2}$

solution : $x \prec \frac{15}{2}$



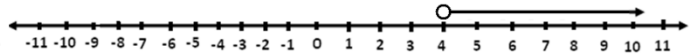
2) $-5x+12 \prec -8$

$-5x \prec -8-12$

$-5x \prec -20$

$x \succ 4$

solution : $x \succ 4$



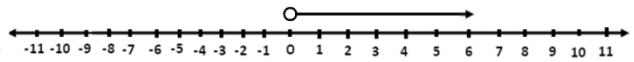
3) $4x+1 \succ 1$

$4x \succ 1-1$

$4x \succ 0$

$x \succ 0$

solution : $x \succ 0$



4) $7 \geq 5x-3$

$7+3 \geq 5x$

$10 \geq 5x$

$2 \geq x$

solution : $x \leq 2$

5) $\frac{-x}{2}+6 \prec -14$

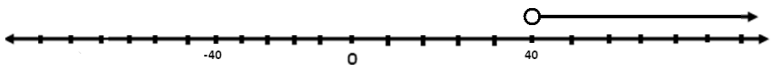
$\frac{-x}{2} \prec -14-6$

$\frac{-x}{2} \prec -20$

$\frac{x}{2} \succ 20$

$x \succ 40$

solution : $x \succ 40$



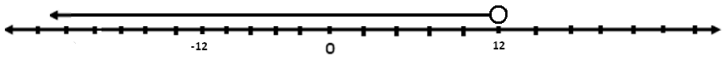
6) $10 \succ 6+\frac{y}{3}$

$10-6 \succ \frac{y}{3}$

$4 \succ \frac{y}{3}$

$12 \succ y$

solution : $y \prec 12$

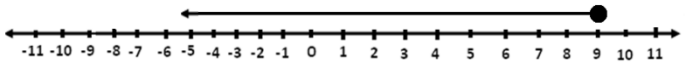


7) $6+y \geq 2y-3$

$6+3 \geq 2y-y$

$9 \geq y$

solution : $y \leq 9$



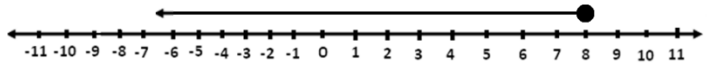
8) $5y+2 \leq y+34$

$5y-y \leq 34-2$

$4y \leq 32$

$y \leq 8$

solution : $y \leq 8$



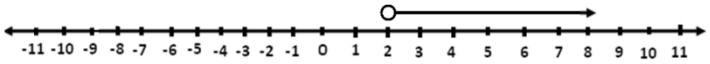
9) $2y+7 \succ 11$

$2y \succ 11-7$

$2y \succ 4$

$y \succ 2$

solution : $y \succ 2$



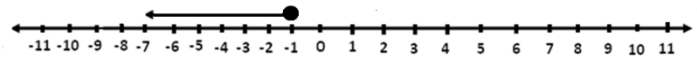
10) $6n-3 \le -9$

$6n \le -9+3$

$6n \le -6$

$n \le -1$

solution : $x \le -1$



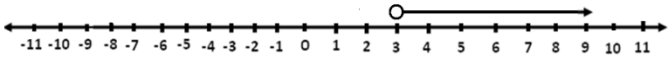
11) $11-4z \prec -1$

$11+1 \prec 4z$

$12 \prec 4z$

$3 \prec z$

solution : $z \succ 3$



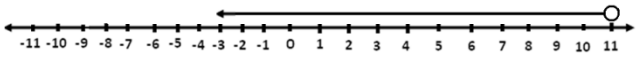
12) $3m-8 \succ -30+5m$

$-8+30 \succ 5m-3m$

$22 \succ 2m$

$11 \succ m$

solution : $m \prec 11$



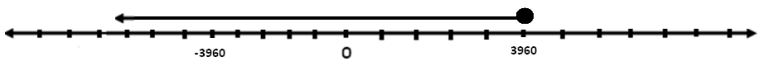
13) $19 \ge \frac{x}{90} - 25$

$19+25 \ge \frac{x}{90}$

$44 \ge \frac{x}{90}$

$3960 \ge x$

solution : $x \le 3960$



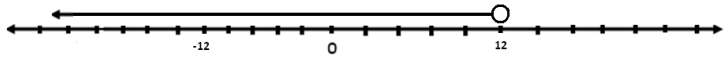
14) $3+\frac{b}{3} \prec 7$

$\frac{b}{3} \prec 7-3$

$\frac{b}{3} \prec 4$

$b \prec 12$

solution : $b \prec 12$



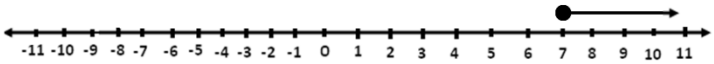
15) $14p-5 \geq -3p+114$

$14p+3p \geq 114+5$

$17p \geq 119$

$p \geq 7$

solution : $p \geq 7$



16) $-3x-3 \prec 2x-83$

$-3+83 \prec 2x+3x$

$80 \prec 5x$

$16 \prec x$

solution : $x \succ 16$