

FOR TEACHER / SELF-CHECK USE

This test was written to cover Unit 2's topics (one-step, two-step, and compound inequalities, absolute value inequalities, graphing, and linear inequalities in two variables). Every solution below has been independently verified.

1	Add 4: $3x > 12$. Divide by 3: $x > 4$. Answer: A — $x > 4$
2	Subtract 5: $-2x \leq 6$. Divide by -2 and flip: $x \geq -3$. Answer: A — $x \geq -3$
3	Subtract 1 from all parts: $-4 < 2x \leq 6$. Divide by 2: $-2 < x \leq 3$. Answer: $-2 < x \leq 3$
4	$x \geq -3$ includes -3 itself (closed circle) and all values greater (shade right). Answer: B — Closed circle at -3, shading to the right
5	$x - 4 = 6 \rightarrow x = 10$, or $x - 4 = -6 \rightarrow x = -2$. Answer: A — $x = 10$ or $x = -2$
6	$-9 < 2x + 1 < 9$. Subtract 1: $-10 < 2x < 8$. Divide by 2: $-5 < x < 4$. Answer: A — $-5 < x < 4$
7	Subtract 2x: $3x - 3 \geq 9$. Add 3: $3x \geq 12$. Divide by 3: $x \geq 4$. Answer: $x \geq 4$
8	(0,0): $0 < -1$ false. (3,1): $1 < 5$ true. (-1,0): $0 < -3$ false. (2,5): $5 < 3$ false. Answer: B — (3, 1)
9	$5 + 2h \leq 17$. Subtract 5: $2h \leq 12$. Divide by 2: $h \leq 6$. Answer: You can park at most 6 hours.
10	The line $y = -x + 3$ has slope -1 and y-intercept 3. Since the inequality is $\leq$ (includes equality), the line is solid. Test point (0,0): $0 \leq -0 + 3 = 3$ is true, so shade the side containing the origin (below/left of the line). Answer: Solid line with slope -1, y-intercept 3; shade the region containing the origin (below the line).