

Name _____ Date _____ Period _____

Solving Absolute Value Linear Inequalities - Practice

Algebra II Honors | Unit 2 | Lesson 7 Practice | TEK A2.6.F

Objective: I can solve absolute value inequalities by the sandwich and split methods, handle a reversed inside and a variable on both sides, and graph the solution.

Section 1 — Recall

1. $|A| < k$ gives an _____ statement; $|A| > k$ gives an _____ statement.

2. Solve $|x| \leq 9$.

3. Solve $|x| > 3$.

4. Write the sandwich form of $|A| < k$.

Section 2 — Apply

5. Solve $3|x + 2| - 4 < 11$ TWO ways (sandwich and split), then graph.

Isolate: _____ Sandwich: _____

Split: _____ Solution: _____

Graph the solution:

-9	-8	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5
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6. Solve $4|2x - 1| + 3 \leq 23$.

Isolate: _____ Sandwich: _____

Solution: _____

7. Solve $5|x - 3| - 2 > 13$.

Isolate: _____ Solution: _____

Section 3 — Challenge

8. Solve $2|7 - x| + 1 \geq 11$. The inside is written $7 - x$, so watch the flip when you divide by -1 .

Isolate: _____ Split: _____

Solution: _____

9. Solve $|3x + 1| \leq 2x + 6$, a variable on BOTH sides.

Sandwich: _____

Left half: _____ Right half: _____ Solution:

Section 4 — Explain It

10. Using distance from 0, explain why an "and" answer is always ONE connected interval while an "or" answer is always TWO pieces with a gap — and why the two kinds can never overlap.
