Solving Radical Inequalities

- 1. Solve the inequality.
- 2. Set the radicand > 0, then solve.
- 3. Graph #1 + #2 on a number line.
- 4. Find where shading is in common.
- 5. Write solution in interval notation.

1.
$$\sqrt{x+2} \le 4$$

$$0(\sqrt{x+2})^{2} \le (4)^{2}$$

$$x+2 \le 16$$

$$x \le 14$$
Solution: $[-2, 14]$

2.
$$\sqrt{5x-16} < \sqrt{2x-4}$$

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10. $\sqrt{5x-16} < \sqrt{2x-4}$

11. $\sqrt{5x-16} < \sqrt{2x-4}$

12. $\sqrt{5x-16} < \sqrt{2x-4}$

13. $\sqrt{5x-16} < \sqrt{5x-16}$

14. $\sqrt{5x-16} < \sqrt{5x-16}$

15. $\sqrt{5x-16} < \sqrt{5x-16}$

16. $\sqrt{5x-16} < \sqrt{5x-16}$

17. $\sqrt{5x-16} < \sqrt{5x-16}$

18. $\sqrt{5x-16} < \sqrt{5x-16}$

19. $\sqrt{$

3.
$$-\sqrt{5x+13} \le -2$$

() $-\sqrt{5x+13} \le -2$
() $5x+13 \ge 0$
() $5x+13 \ge 4$
() $5x \ge -9$
() $2x \ge -9$