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## A Focus on Square Roots

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Answer each question fully with explanation where needed.

1. Is there a value of $x$ such that $\sqrt{x+5}=0$ ? If yes, what is the value? If no, explain why not.
2. Is there a value of $x$ such that $\sqrt{x}+5=0$ ? If yes, what is the value? If no, explain why not.
3. Without actually solving the equation, explain why the equation $\sqrt{x+1}+2=0$ has no solution

Solve each equation and check the solution.
4. $\sqrt{x+3}+6=3$
6. $\frac{\sqrt{x+9}}{4}=3$
5. $\sqrt{2 x-3}=\sqrt{10-x}$
7. $\frac{5}{\sqrt{x-2}}=5$
8. $\sqrt[3]{5 x-3}+8=6$
11. $3 \sqrt{x+2}+\sqrt{x+4}=0$
9. $2 \sqrt{x+3}=6$
12. $\sqrt[3]{9-x}=6$
10. $\sqrt{3 x-5}=7$
13. $\frac{5}{\sqrt{x}-2}=5$

