Objective 3 - Solving Radical Equations (Linear)

Solve radical equations that lead to linear equations.

Link to section in online textbook.

You can print out these notes to follow along with the video below and keep notes to organize your thoughts.

YouTube link: `https://www.youtube.com/watch?v=7RV_HHg_AFM`

The major difference is in the restricted domains of radical functions! This objective will focus on radical equations that lead to linear equations. That means we can have 0 or 1 solution *(based on whether the potential solution is in the domains of the radical functions).*

Question 1 *Solve the following equation. If there is no Real solution, type "NA".*

$$\sqrt{-4\,x+7} = \sqrt{-7\,x+4}$$

Potential Solution: $x = \boxed{-1.0}$

Actual Solution: $x = \boxed{-1.0}$

Hint: *How can we tell if the potential solution (the value we get from squaring both sides and solving) is an actual solution? Is there anything we need to worry about when it comes to square root functions? (think domain)*

Question 2 *Solve the following equation. If there is no Real solution, type "NA".*

$$\sqrt{-5\,x-7} = \sqrt{9\,x+9}$$

Potential Solution: $x = \boxed{-1.143}$

Actual Solution: $x = \boxed{NA}$

Learning outcomes:
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Question 3 *Solve the following equation. If there is no Real solution, type "NA".*

$$\sqrt{6\,x+2} = \sqrt{-6\,x-8}$$

Potential Solution: $x = \boxed{-0.833}$

Actual Solution: $x = \boxed{NA}$

Question 4 *Solve the following equation. If there is no Real solution, type "NA".*

$$\sqrt{-3\,x+3} = \sqrt{-4\,x-5}$$

Potential Solution: $x = \boxed{-8.0}$

Actual Solution: $x = \boxed{-8.0}$
