

Please answer these questions on a separate sheet of paper.

- 1) Watch this video on radical equations: <https://youtu.be/3jwwZA8FC1g?si=KR0Z2qdc-iJzi7Sd>
- 2) Which example in the video has an answer of $w = 2$? Why is there only one answer even though it ended up as a quadratic equation?
- 3) For the equation $\sqrt{2x - 9} + 5 = 6$, follow these steps to solve. Please do this on a separate piece of paper.
 - a. Isolate the radical by subtracting the constant value on both sides.
 - b. Square both sides of the equation.
 - c. Is the resulting equation linear or quadratic?
 - d. Solve the resulting equation.
 - e. Check your answer by plugging in for x into $\sqrt{2x - 9} + 5 = 6$.
 - f. Evaluate the left side and the right side. Do the results match? If you have multiple answers, check each answer independently.
- 4) Use the above steps to solve: $2\sqrt{8 - x} - x = 0$. Check your answer(s).
- 5) Watch this video: <https://youtu.be/1x4rW-WEFH8?si=z0-wDpgr2SqtW27t>
- 6) Which example in the video has an answer of $x = -9$? Why is there only one answer even though it ended up as a quadratic equation?
- 7) For the equation $\frac{4}{4-x} - \frac{4}{x-6} = 0$, follow these steps to solve. Please do this on a separate piece of paper.
 - a. Identify the LCD.
 - b. Multiply each term in the equation by the LCD. Be sure to cancel and reduce!
 - c. Is the resulting equation linear or quadratic?
 - d. Solve the resulting equation.
 - e. Check your answer by plugging in for x into $\frac{4}{4-x} - \frac{4}{x-6} = 0$.
 - f. Evaluate the left side and the right side. Do the results match? If you have multiple answers, check each answer independently.
- 8) Use the above steps to solve: $\frac{2}{x} - \frac{3}{x-2} + 1 = 0$. Check your answer(s).