Solve the following equations, checking for extraneous solutions.

1.
$$10\sqrt{4x+1} - 50 = 0$$

2.
$$\sqrt{x+4}+6=7$$

3.
$$2\sqrt{n-5} + 3 = -15$$

4.
$$\sqrt{2n+3} = \sqrt{5n-8}$$

5. Write a function that is a transformation of $y = \sqrt{x}$ that has been reflected over the y-axis, vertically stretched by a factor of 12, and shifted down 2.

6. Describe the transformations that have occurred to take $y = \sqrt{x}$ to $y = -\sqrt{x+5} - 19$.

7.
$$x - 10 = \sqrt{141 - 4x} - 4$$

8.
$$\sqrt{12x-12}-x=-1$$