Solving Radical Equations (additional practice)

Solve each of the following equations. Show all necessary work.

1. $\sqrt{x+1}+5=x$

2. $x-\sqrt{x-1}=7$

3. $\sqrt{x}-2=x-22$

4. $3+\sqrt{x}=1+x$

5. $2x=\sqrt{1-3x}$

6. $x=\frac{\sqrt{2-3x}}{3}$

7. $\frac{1}{x}=\frac{3}{\sqrt{4x+1}}$

8. $\sqrt{x+2}=-x-2$

9. $\sqrt{x^2 - 8x} = 3$

10. $\sqrt{2x + 5} + x = 5$

Answers:

1. $x = 8$
2. $x = 10$
3. $x = 25$
4. $x = 4$
5. $x = \frac{1}{4}$
6. $x = \frac{1}{3}$
7. $x = \frac{2+\sqrt{13}}{9}$
8. $x = -2$
9. $x = -1, 9$
10. $x = 2$