

PROBLEM SET 7-5
(Solving Radical Equations)

Solve and check for extraneous solutions.

1. $\sqrt{11x+3} - 2x = 0$

2. $\sqrt{3x+13} - 5 = x$

3. $(x+3)^{\frac{1}{2}} - 1 = x$

4. $\sqrt{3x} = \sqrt{x+6}$

5. $(7x+6)^{\frac{1}{2}} = (9+4x)^{\frac{1}{2}}$

6. $\sqrt{x+7} - x = 1$

7. $(3x+2)^{\frac{1}{2}} - (2x+7)^{\frac{1}{2}} = 0$

8. $(2x)^{\frac{1}{2}} = (x+5)^{\frac{1}{2}}$

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

10. $\sqrt{2x-1} - 3 = 0$

11. $\sqrt{x^2+3} = x+1$

12. $(2x+3)^{\frac{3}{4}} - 3 = 5$

13. $x^{\frac{1}{2}} - (x-5)^{\frac{1}{2}} = 2$

14. $\sqrt{5x+1} - \sqrt{4x+3} = 0$

15. $(3x+2)^{\frac{1}{2}} = 8(3x+2)^{\frac{1}{2}}$

16. $(x-9)^{\frac{1}{2}} + 1 = x^{\frac{1}{2}}$

17. $(2x+1)^{\frac{1}{3}} = (2+3x)^{\frac{1}{3}}$

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