

Solve the following equations.

1. $x = \sqrt{15 - 2x}$

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

2. $\sqrt[4]{5x^2 - 6} = x$

12. $3 + \frac{5}{p^2 + 1} = \frac{2}{(p^2 + 1)^2}$

3. $\frac{7}{2y-3} + \frac{3}{(2y-3)^2} = 6$

13. $2(1 - 2\sqrt{x})^2 - (1 - 2\sqrt{x}) = 21$

4. $1 + 3(r^2 - 1)^{-1} = 28(r^2 - 1)^{-2}$

14. $20(2 - \sqrt{m})^2 + 11(2 - \sqrt{m}) = 3$

5. $(r - 1)^{\frac{2}{3}} = 12 - (r - 1)^{\frac{1}{3}}$

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

6. $\sqrt{2t} + 4 = t$

16. $\sqrt{3z+7} = 3z + 5$

7. $\sqrt{y} = \sqrt{y-5} + 1$

17. $p(2+p)^{-\frac{1}{2}} + (2+p)^{\frac{1}{2}} = 0$

8. $(2k-9)^{-\frac{2}{3}} + 4(2k-9)^{\frac{1}{3}} = 0$

18. $\sqrt{2p-5} - 2 = \sqrt{p-2}$

9. $\sqrt{5x-1} + \sqrt{2-x} = \sqrt{8x+1}$

19. $\sqrt{2\sqrt{7x+2}} = \sqrt{3x+2}$

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

20. $3 - \sqrt{x} = \sqrt{2\sqrt{x} - 3}$