



EXERCISES 5.1.A



In Exercises 1–26, find all real solutions of each equation. Find exact solutions when possible and approximate ones otherwise.

1. $\sqrt{x+2} = 3$
2. $\sqrt{x-7} = 4$
3. $\sqrt{4x+9} = 5$
4. $\sqrt{3x-2} = 7$
5. $\sqrt[3]{5-11x} = 3$
6. $\sqrt[3]{6x-10} = 2$
7. $\sqrt[3]{x^2-1} = 2$
8. $(x+1)^{2/3} = 4$
9. $\sqrt{x^2-x-1} = 1$
10. $\sqrt{x^2-5x+4} = 2$
11. $\sqrt{x+7} = x-5$
12. $\sqrt{x+5} = x-1$
13. $\sqrt{3x^2+7x-2} = x+1$
14. $\sqrt{4x^2-10x+5} = x-3$
15. $\sqrt[3]{x^3+x^2-4x+5} = x+1$
16. $\sqrt[3]{x^3-6x^2+2x+3} = x-1$
17. $\sqrt[5]{9-x^2} = x^2+1$
18. $\sqrt[4]{x^3-x+1} = x^2-1$
19. $\sqrt[3]{x^5-x^3-x} = x+2$
20. $\sqrt{x^3+2x^2-1} = x^3+2x-1$
21. $\sqrt{x^2+3x-6} = x^4-3x^2+2$
22. $\sqrt[3]{x^4+x^2+1} = x^2-x-5$

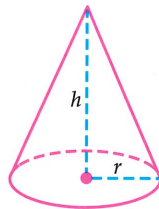
23. $\sqrt{5x+6} = 3 + \sqrt{x+3}$

24. $\sqrt{3y+1} - 1 = \sqrt{y+4}$

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

26. $\sqrt{x-3} + \sqrt{x+5} = 4$

27. The surface area S of the right circular cone in the figure is given by $S = \pi r \sqrt{r^2 + h^2}$. What radius should be used to produce a cone of height 5 inches and surface area 100 square inches?



28. What is the radius of the base of a cone whose surface area is 18π square centimeters and whose height is 4 cm?
29. Find the radius of the base of a conical container whose height is $1/3$ of the radius and whose volume is 180 cubic inches. [Note: The volume of a cone of radius r and height h is $\pi r^2 h / 3$.]