Practice 10-4 ....

Solve each radical equation. Check your solution. If there is no solution, write *no solution*.

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

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

3. $x = \sqrt{24 - 10x}$

4. $\sqrt{4x} - 7 = 1$

5. $\sqrt{x} = \sqrt{4x - 12}$

6. $x = \sqrt{11x - 28}$

7. $\sqrt{x} = 12$

8. $x = \sqrt{12x - 32}$

9. $x = \sqrt{13x - 40}$

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

11. $\sqrt{x + 3} = 5$

12. $\sqrt{6x - 4} = \sqrt{4x + 6}$

13. $2 = \sqrt{x + 6}$

14. $x = \sqrt{2 - x}$

15. $\sqrt{4x + 2} = \sqrt{x + 14}$

16. $\sqrt{x + 8} = 9$

17. $x = \sqrt{7x + 8}$

18. $\sqrt{3x + 8} = \sqrt{2x + 12}$

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

20. $\sqrt{3x + 13} = \sqrt{7x - 3}$

21. $x = \sqrt{6 + 5x}$

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

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

24. $x = \sqrt{x - 12}$

25. $\sqrt{x - 4} + 3 = 9$

26. $x = \sqrt{8x + 20}$

27. $12 = \sqrt{6x}$

28. $x = \sqrt{60 - 7x}$

29. $\sqrt{x + 14} = \sqrt{6x - 1}$

30. $\sqrt{5x - 7} = \sqrt{6x + 11}$

31. $7 + \sqrt{2x} = 3$

32. $\sqrt{x + 56} = x$

33. $5 + \sqrt{x + 4} = 12$

34. The equation $d = \frac{1}{2}at^2$ gives the distance d in ft that an object travels from rest while accelerating, where a is the acceleration and t is the time.
   a. How far has an object traveled in 4 s when the acceleration is 5 ft/s^2 ?
   b. How long does it take an object to travel 100 ft when the acceleration is 8 ft/s^2 ?

35. The equation $v = 20\sqrt{t + 273}$ relates the speed v, in m/s, to the air temperature t in Celsius degrees.
   a. Find the temperature when the speed of sound is 340 m/s.
   b. Find the temperature when the speed of sound is 320 m/s.

36. The equation $V = \sqrt{\frac{Fr}{m}}$ gives the speed V in m/s of an object moving in a horizontal circle, where F is centripetal force, r is radius, and m is mass of the object.
   a. Find r when $F = 6$ N, $m = 2$ kg, and $V = 3$ m/s.
   b. Find F when $r = 1$ m, $m = 3$ kg, and $V = 2$ m/s.