Name: _____ Date: _____

Fresh Math

Extraneous Solutions - Medium

Solve each equation. Check every answer and name any extraneous solutions.

1. $\sqrt{4x + 20} = x + 2$
2. $\sqrt{4x + 89} = x + 3$
3. $\sqrt{3x + 4} = x + 2$
4. $\sqrt{4x + 45} = x$
5. $\sqrt{4x + 12} = x - 5$
6. $\sqrt{x + 15} = x + 3$
7. $\sqrt{4x + 4} = x - 2$
8. $\sqrt{3x + 52} = x + 4$
9. $\sqrt{4x + 85} = x + 2$
10. $\sqrt{4x + 13} = x + 2$

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Fresh Math

Extraneous Solutions - Medium

Solve each equation. Check every answer and name any extraneous solutions.

11. $\sqrt{2x + 4} = x - 2$

12. $\sqrt{x + 86} = x - 4$

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

14. $\sqrt{4x + 49} = x + 1$

15. $\sqrt{2x + 101} = x + 1$

16. $\sqrt{2x + 24} = x$

17. $\sqrt{x + 12} = x$

18. $\sqrt{4x + 76} = x + 4$

19. $\sqrt{x + 19} = x - 1$

20. $\sqrt{4x + 5} = x$

Extraneous Solutions - Medium - Answer Key

1. $\sqrt{4x + 20} = x + 2$

   x = 4 (x = -4 is extraneous)

2. $\sqrt{4x + 89} = x + 3$

   x = 8 (x = -10 is extraneous)

3. $\sqrt{3x + 4} = x + 2$

   x = -1 or x = 0 (no extraneous solutions)

4. $\sqrt{4x + 45} = x$

   x = 9 (x = -5 is extraneous)

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

   x = 13 (x = 1 is extraneous)

6. $\sqrt{x + 15} = x + 3$

   x = 1 (x = -6 is extraneous)

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

   x = 8 (x = 0 is extraneous)

8. $\sqrt{3x + 52} = x + 4$

   x = 4 (x = -9 is extraneous)

9. $\sqrt{4x + 85} = x + 2$

   x = 9 (x = -9 is extraneous)

10. $\sqrt{4x + 13} = x + 2$

    x = 3 (x = -3 is extraneous)

Extraneous Solutions - Medium - Answer Key

11. $\sqrt{2x+4} = x - 2$

x = 6 (x = 0 is extraneous)

12. $\sqrt{x+86} = x - 4$

x = 14 (x = -5 is extraneous)

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

x = 10 (x = 0 is extraneous)

14. $\sqrt{4x+49} = x + 1$

x = 8 (x = -6 is extraneous)

15. $\sqrt{2x+101} = x + 1$

x = 10 (x = -10 is extraneous)

16. $\sqrt{2x+24} = x$

x = 6 (x = -4 is extraneous)

17. $\sqrt{x+12} = x$

x = 4 (x = -3 is extraneous)

18. $\sqrt{4x+76} = x + 4$

x = 6 (x = -10 is extraneous)

19. $\sqrt{x+19} = x - 1$

x = 6 (x = -3 is extraneous)

20. $\sqrt{4x+5} = x$

x = 5 (x = -1 is extraneous)