Name: **Date:** **Period:**

In Exercises 1–21, solve the equation. Check your solution(s). Show all work on a separate piece of paper.

1. $\sqrt{x} = 4$

2. $8 = \sqrt{n} - 3$

3. $3\sqrt{a} - 15 = -6$

4. $\sqrt{s-3} + 7 = 11$

5. $6\sqrt{t-2} = 12$

6. $3\sqrt{3x-6} + 2 = 20$

7. $\sqrt{d} = \sqrt{5d-8}$

8. $\sqrt{3c-2} = \sqrt{4c-6}$

9. $\sqrt{4b-4} = \sqrt{2b+4}$

10. $\sqrt{z-12} = \sqrt{\frac{z}{3} - 3}$

11. $\sqrt{\frac{2v}{3} + 10} = \sqrt{4v-10}$

12. $\sqrt{3w+1} - \sqrt{6w} = 0$

13. $5 = \sqrt[3]{x}$

14. $-3 = \sqrt[3]{x+2}$

15. $\sqrt[3]{7m-3} = \sqrt[3]{m+9}$

16. $k + 6 = \sqrt{2k+15}$

17. $\sqrt{-1-2b} = b$

18. $\sqrt{3p+19} = p - 3$

19. $r - 1 = \sqrt{r+5}$

20. $\sqrt{2x-1} + 6 = 3$

21. $k - 1 = \sqrt{5k-9}$

22. The period *P* (in seconds) of a pendulum is given by the function $P = 2\pi\sqrt{\frac{L}{32}}$, where *L* is the pendulum length (in feet). A pendulum has a period of 16 seconds. Is this pendulum 16 times as long as a pendulum with a period of 4 seconds? Explain your reasoning.