Name _____ Class _____ Date _____

Practice

11-3

Solving Square Root and Other Radical Equations

Solve.

1. $5\sqrt{x} + 2 = 12$

2. $3\sqrt{x} - 8 = 7$

3. $\sqrt{4x} + 2 = 8$

4. $\sqrt{2x - 5} = 7$

5. $\sqrt{3x - 3} - 6 = 0$

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

7. $\sqrt{3x - 2} - 7 = 0$

8. $\sqrt{4x + 3} + 2 = 5$

9. $\sqrt{33 - 3x} = 3$

10. $\sqrt[3]{2x + 1} = 3$

11. $\sqrt[3]{13x - 1} - 4 = 0$

12. $\sqrt[3]{2x - 4} = -2$

Solve.

13. $(x - 2)^{\frac{1}{3}} = 5$

14. $(2x + 1)^{\frac{1}{3}} = -3$

15. $2x^{\frac{3}{4}} = 16$

16. $2x^{\frac{1}{3}} - 2 = 0$

17. $x^{\frac{1}{2}} - 5 = 0$

18. $4x^{\frac{3}{2}} - 5 = 103$

19. $(7x - 3)^{\frac{1}{2}} = 5$
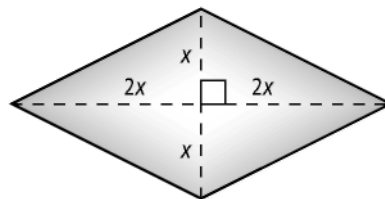
20. $4x^{\frac{1}{2}} - 5 = 27$

21. $x^{\frac{1}{6}} - 2 = 0$

22. $(2x + 1)^{\frac{1}{3}} = 1$

23. $(x - 2)^{\frac{2}{3}} - 4 = 5$

24. $3x^{\frac{4}{3}} + 5 = 53$

25. The *area A* of the window is 196 ft². What are the width and height of the window?

26. The formula $A = 6V^{\frac{2}{3}}$ relates the surface area *A*, in square units, of a cube to the volume *V,* in cubic units. What is the volume of a cube with surface area 486 in.²?

27. A mound of sand at a rock-crushing plant is growing at the rate of *V =* $0.2(t^3 + 1)$, where *V* is the volume of the sand in cubic meters and *t* is the time in hours. When is the volume equal to 549 m³?