

Practice B

For use with pages 716–721

Simplify the radical.

1. $\sqrt{98}$

2. $\sqrt{48}$

3. $\sqrt{54}$

4. $\sqrt{162}$

5. $\sqrt{192}$

6. $\sqrt{112}$

7. $\sqrt{250}$

8. $\sqrt{108}$

Simplify the expression.

9. $4\sqrt{3} + 2\sqrt{3}$

10. $8\sqrt{5} + \sqrt{5}$

11. $7\sqrt{2} - 3\sqrt{2}$

12. $10\sqrt{6} - 13\sqrt{6}$

13. $\sqrt{20} + \sqrt{5}$

14. $\sqrt{48} - 3\sqrt{12}$

15. $\sqrt{18} + \sqrt{32}$

16. $\sqrt{12} - \sqrt{48} + \sqrt{3}$

17. $2\sqrt{8} - \sqrt{98} + \sqrt{72}$

18. $\sqrt{28} - 3\sqrt{7} + \sqrt{63}$

19. $\sqrt{200} - \sqrt{242} - \sqrt{2}$

20. $\sqrt{40} + \sqrt{90} - \sqrt{1000}$

Simplify the expression.

21. $\sqrt{8} \cdot \sqrt{2}$

22. $\sqrt{12} \cdot \sqrt{3}$

23. $\sqrt{9} \cdot \sqrt{7}$

24. $\sqrt{2}(3\sqrt{2} + \sqrt{5})$

25. $\sqrt{7}(3\sqrt{5} - \sqrt{20})$

26. $\sqrt{6}(2\sqrt{3} - 4\sqrt{2})$

27. $(\sqrt{3} + 2)^2$

28. $(4 - \sqrt{5})^2$

29. $(3\sqrt{2} - 1)^2$

30. $\frac{6}{\sqrt{3}}$

31. $\frac{5}{\sqrt{5}}$

32. $\frac{7}{\sqrt{2}}$

33. $\frac{3}{4 + \sqrt{2}}$

34. $\frac{1}{\sqrt{3} - 2}$

35. $\frac{2}{5 + \sqrt{2}}$

Show whether the expression is a solution of the equation.

36. $x^2 + 6x + 2 = 0$; $-3 + \sqrt{7}$

37. $2x^2 - 6x + 3 = 0$; $3 + \sqrt{3}$

38. $x^2 - 4x - 6 = 0$; $1 - \sqrt{10}$

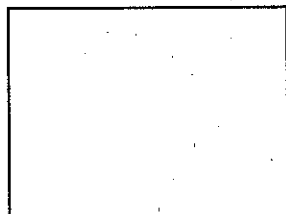
39. $x^2 - 8x + 3 = 0$; $4 - \sqrt{13}$

40. **Science Center** A new science center opens. For the first 10 weeks, the number of people that visit the center can be modeled by

$$N = \sqrt{5000 + 320t}$$

where N is in hundreds of people and $t = 0$ corresponds to week 1. How many people visited the center the opening week? Make a table that shows the number of visitors over the first 10 weeks.

41. **Geometry** Find the area and the perimeter of the rectangle.



$$\sqrt{7} + 8$$

$$\sqrt{63}$$