

11-2 Skills Practice***Operations with Radical Expressions*****Simplify each expression.**

1. $7\sqrt{7} - 2\sqrt{7}$

2. $3\sqrt{13} + 7\sqrt{13}$

3. $6\sqrt{5} - 2\sqrt{5} + 8\sqrt{5}$

4. $\sqrt{15} + 8\sqrt{15} - 12\sqrt{15}$

5. $12\sqrt{c} - 9\sqrt{c}$

6. $9\sqrt{6a} - 11\sqrt{6a} + 4\sqrt{6a}$

7. $\sqrt{44} - \sqrt{11}$

8. $\sqrt{28} + \sqrt{63}$

9. $4\sqrt{3} + 2\sqrt{12}$

10. $8\sqrt{54} - 4\sqrt{6}$

11. $\sqrt{27} + \sqrt{48} + \sqrt{12}$

12. $\sqrt{72} + \sqrt{50} - \sqrt{8}$

13. $\sqrt{180} - 5\sqrt{5} + \sqrt{20}$

14. $2\sqrt{24} + 4\sqrt{54} + 5\sqrt{96}$

15. $5\sqrt{8} + 2\sqrt{20} - \sqrt{8}$

16. $2\sqrt{13} + 4\sqrt{2} - 5\sqrt{13} + \sqrt{2}$

Find each product.

17. $\sqrt{2}(\sqrt{8} + \sqrt{6})$

18. $\sqrt{5}(\sqrt{10} - \sqrt{3})$

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

20. $3\sqrt{3}(2\sqrt{6} + 4\sqrt{10})$

21. $(4 + \sqrt{3})(4 - \sqrt{3})$

22. $(2 - \sqrt{6})^2$

23. $(\sqrt{8} + \sqrt{2})(\sqrt{5} + \sqrt{3})$

24. $(\sqrt{6} + 4\sqrt{5})(4\sqrt{3} - \sqrt{10})$