

Name: _____ Date: _____ Period: _____

Operations with Radical Expressions-
11.2 Practice 5

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

Name: _____ Date: _____ Period: _____

Operations with Radical Expressions-
11.2 Practice 4

Simplify each expression.

1. $8\sqrt{30} - 4\sqrt{30}$

2. $2\sqrt{5} + 7\sqrt{5} - 5\sqrt{5}$

3. $7\sqrt{13x} - 14\sqrt{13x} + 2\sqrt{13x}$

4. $2\sqrt{45} + 4\sqrt{20}$

5. $\sqrt{40} - \sqrt{10} + \sqrt{90}$

6. $2\sqrt{32} + 3\sqrt{50} - 3\sqrt{18}$

7. $\sqrt{27} + \sqrt{18} + \sqrt{300}$

8. $5\sqrt{8} + 3\sqrt{20} - \sqrt{32}$

9. $\sqrt{14} - \sqrt{\frac{2}{7}}$

10. $3\sqrt{10} + \sqrt{75} - 2\sqrt{40} - 4\sqrt{12}$

11. $5\sqrt{19} + 4\sqrt{28} - 8\sqrt{19} + \sqrt{63}$

12. $\sqrt{50} + \sqrt{32} - \sqrt{\frac{1}{2}}$

Find each product.

13. $\sqrt{6}(\sqrt{10} + \sqrt{15})$

14. $\sqrt{5}(5\sqrt{2} - 4\sqrt{8})$

15. $2\sqrt{7}(3\sqrt{12} + 5\sqrt{8})$

16. $(5 - \sqrt{15})^2$

17. $(\sqrt{10} + \sqrt{6})(\sqrt{30} - \sqrt{18})$

18. $(\sqrt{8} + \sqrt{12})(\sqrt{48} + \sqrt{18})$

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

20. $(4\sqrt{3} - 2\sqrt{5})(3\sqrt{10} + 5\sqrt{6})$