

Name _____

Date _____

Practice Set 9.3
Operations with Radicals

Add or subtract as indicated. If the terms are not like radicals and cannot be combined, so state.

1. $2\sqrt{6} + 7\sqrt{6}$ 1. _____

2. $5\sqrt{x} - 4\sqrt{x}$ 2. _____

3. $2\sqrt{5} + 3\sqrt{5} + \sqrt{5}$ 3. _____

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

5. $\sqrt{27} + \sqrt{48}$ 5. _____

6. $8\sqrt{3} - 2\sqrt{3}$ 6. _____

7. $7\sqrt{3y} + 8\sqrt{3y}$ 7. _____

8. $9\sqrt{12} + 4\sqrt{27}$ 8. _____

9. $\sqrt{32} - \sqrt{2}$ 9. _____

10. $5\sqrt{10} + 3\sqrt{10} - \sqrt{10}$ 10. _____

Name _____

Date _____

Multiply as indicated. Simplify radicals as needed.

11. $\sqrt{6}(\sqrt{5} + 2)$ 11. _____

12. $\sqrt{7}(\sqrt{2} - \sqrt{6})$ 12. _____

13. $\sqrt{10}(\sqrt{2} + \sqrt{3})$ 13. _____

14. $(3\sqrt{5} + 4)(3\sqrt{5} - 4)$ 14. _____

15. $(\sqrt{x} + \sqrt{2})^2$ 15. _____

16. $(\sqrt{3} + 2)(\sqrt{3} - 4)$ 16. _____

17. $(\sqrt{2} + 3\sqrt{2})(2\sqrt{2} + 4\sqrt{2})$ 17. _____

18. $(3\sqrt{5} - 1)(2\sqrt{5} + 1)$ 18. _____

19. $(4\sqrt{6} + 2)(2\sqrt{3} - 5)$ 19. _____

20. $(\sqrt{x} - 3)^2$ 20. _____