NAME _____ DATE _____ PERIOD _____

7-4 Extra Practice Radical Expressions

Simplify each expression.

1. $\sqrt{28}$ $2\sqrt{7}$

2. $\sqrt{40}$ $2\sqrt{10}$

3. $\sqrt{2} \cdot \sqrt{10}$ $2\sqrt{5}$

4. $\sqrt{5} \cdot \sqrt{60}$ $10\sqrt{3}$

5. $2\sqrt{3} \cdot 3\sqrt{15}$ $18\sqrt{5}$

6. $\sqrt{16b^4}$ $4b^2$

7. $\sqrt{81a^2d^4}$ $9|a|d^2$

8. $\sqrt{40x^4y^6}$ $2x^2|y^3|\sqrt{10}$

9. $\sqrt{\frac{1}{6}}$ $\frac{\sqrt{6}}{6}$

10. $\sqrt{\frac{6}{7}} \cdot \sqrt{\frac{1}{3}}$ $\frac{\sqrt{14}}{7}$

11. $\sqrt{\frac{12}{b^2}}$ $\frac{2\sqrt{3}}{|b|}$

12. $\sqrt{\frac{45}{4m^4}}$ $\frac{3\sqrt{5}}{2m^2}$

13. $\frac{2}{4+\sqrt{5}}$ $\frac{8-2\sqrt{5}}{11}$

14. $\frac{3}{2-\sqrt{3}}$ $6 + 3\sqrt{3}$

15. $7\sqrt{7} - 2\sqrt{7}$ $5\sqrt{7}$

16. $3\sqrt{13} + 7\sqrt{13}$ $10\sqrt{13}$

17. $12\sqrt{r} - 9\sqrt{r}$ $3\sqrt{r}$

18. $9\sqrt{6a} - 11\sqrt{6a} + 4\sqrt{6a}$ $2\sqrt{6a}$

19. $5\sqrt{8} + 2\sqrt{20} - \sqrt{8}$
$8\sqrt{2} + 4\sqrt{5}$

20. $2\sqrt{13} + 4\sqrt{2} - 5\sqrt{13} + \sqrt{2}$
$-3\sqrt{13} + 5\sqrt{2}$

21. $\sqrt{2}(\sqrt{8} + \sqrt{6})$ $4 + 2\sqrt{3}$

22. $\sqrt{5}(\sqrt{10} - \sqrt{3})$ $5\sqrt{2} - \sqrt{15}$

23. $(4 + \sqrt{3})(4 - \sqrt{3})$ 13

24. $(2 - \sqrt{6})^2$ $10 - 4\sqrt{6}$

25. $(\sqrt{8} + \sqrt{2})(\sqrt{5} + \sqrt{3})$
$3\sqrt{10} + 3\sqrt{6}$

26. $(\sqrt{6} + 4\sqrt{5})(4\sqrt{3} - \sqrt{10})$
$-8\sqrt{2} + 14\sqrt{15}$