Name: _____ Date: _____ Period: _____

1.4 Simplifying, Multiplying and Dividing Radicals Practice

Simplify. Assume all variables represent positive numbers.

1. $\sqrt{64}$
2. $\sqrt{4}$
3. $\sqrt{169}$
4. $\sqrt{256}$

5. $\sqrt{24}$
6. $\sqrt{48}$
7. $\sqrt{32}$
8. $5\sqrt{98}$

9. $-3\sqrt{3}$
10. $10\sqrt{200}$
11. $\sqrt{y^2}$
12. $\sqrt{a^2 b}$

13. $\sqrt{c^4 d^5}$
14. $\sqrt{k^{100}}$
15. $2\sqrt{4x^2 y^7 z^9}$
16. $r^2\sqrt{40r^4 s^{12}}$

17. $\sqrt{3} \bullet \sqrt{6}$
18. $2\sqrt{12} \bullet \sqrt{2}$
19. $100\sqrt{5} \bullet -2\sqrt{6}$

20. $8 \bullet 3\sqrt{2}$

21. $(3\sqrt{6})(9\sqrt{2})(4\sqrt{10})$

22. $-\sqrt{11} \bullet -4\sqrt{121}$

23. $x\sqrt{3x} \bullet x\sqrt{5x}$

24. $\sqrt{x} \bullet \sqrt{y} \bullet \sqrt{z^2}$

25. $2\sqrt{3} \bullet 4\sqrt{5} \bullet 6\sqrt{7}$

26. $\sqrt{\frac{15}{64}}$

27. $\sqrt{\frac{81}{x^2}}$

28. $\sqrt{\frac{23}{9}}$

29. $-\sqrt{\frac{17}{100}}$

30. $\sqrt{\frac{36}{z^2}}$

31. $\sqrt{\frac{4x^2}{64}}$