

Name:

Period:

Sec1H

**In Class 5-2
Operations with Radicals**

Unit 5

Simplify each radical expression.

1. $3\sqrt{5} + 7\sqrt{5}$

2. $7\sqrt{2} - 15\sqrt{2} + 8\sqrt{2}$

3. $2\sqrt{12} - 8\sqrt{3}$

4. $\sqrt{16} + 2\sqrt{25}$

5. $9\sqrt{32} + \sqrt{2}$

6. $3\sqrt{7} - 5\sqrt{14} + 2\sqrt{28}$

7. $2\sqrt{6} - 5\sqrt{54}$

8. $3\sqrt{7} - 5\sqrt{14} + 2\sqrt{28}$

9. $4\sqrt{10} + \sqrt{13} - 9\sqrt{10}$

10. $3\sqrt{3} - \sqrt{27}$

11. $2\sqrt{20} + 3\sqrt{45}$

12. $-\sqrt{18} - \sqrt{8}$

13. $-\sqrt{20} - \sqrt{45}$

14. $-3\sqrt{6} + 2\sqrt{5} - \sqrt{6}$

15. $7\sqrt{75} + 2\sqrt{2} + 3\sqrt{75}$

16. $6\sqrt{112} - 4\sqrt{2} - 7\sqrt{8}$

17. $-4\sqrt{2} - 5\sqrt{50}$

18. $5\sqrt{48} - 4\sqrt{75}$

Simplify each radical expression.

19. $\sqrt{20} \cdot \sqrt{20}$

20. $\sqrt{3} \cdot \sqrt{12}$

21. $\sqrt{12} \cdot \sqrt{15}$

22. $\sqrt{10} \cdot \sqrt{20}$

23. $3\sqrt{20} \cdot 5\sqrt{15}$

24. $-6\sqrt{28} \cdot 9\sqrt{63}$

25. $\sqrt{25} \cdot \sqrt{100}$

26. $3\sqrt{81} \cdot \sqrt{81}$

27. $\sqrt{200} \cdot \sqrt{2}$

28. $5\sqrt{320} \cdot \sqrt{12}$

29. $\sqrt{12} \cdot \sqrt{4}$

30. $2\sqrt{8} \cdot 6\sqrt{2}$

31. $(5\sqrt{7})^3$

32. $(\sqrt{12})^2$

33. $(8\sqrt{6})^3$

34. $(\sqrt{2})^2$

35. $(3\sqrt{12})^3$

36. $(-5\sqrt{17})^2$