

Name \_\_\_\_\_ Pd \_\_\_\_\_ Date \_\_\_\_\_

**Adding and Subtracting Radicals**

Procedure:

- (1) Simplify each radical if possible (express in the simplest form)
- (2) Combine like radicals (use the distributive property)
- (3) Write the indicated sum or difference of the unlike radicals.

Simplify:

1.  $2\sqrt{2} + \sqrt{2}$

2.  $-3\sqrt{7} + 2\sqrt{7}$

3.  $-3\sqrt{11} - 8\sqrt{11} + 9\sqrt{11}$

4.  $8\sqrt{y} - 10\sqrt{y} - \sqrt{y}$

5.  $3x\sqrt{2} - x\sqrt{2} + 5x\sqrt{2}$

6.  $2y\sqrt{3} - 9y\sqrt{3}$

7.  $-4\sqrt{xy} + 6\sqrt{xy}$

8.  $\sqrt{45} + \sqrt{125}$

9.  $\sqrt{32} - \sqrt{98}$

10.  $2\sqrt{2} + 3\sqrt{8}$

11.  $5\sqrt{18} - 2\sqrt{75}$

12.  $5\sqrt{75} - 2\sqrt{18}$

13.  $5\sqrt{4x} - 3\sqrt{8x}$

14.  $3\sqrt{3x^2} - 5\sqrt{27x^2}$

15.  $8\sqrt{2} - 3\sqrt{y} - 8\sqrt{2}$

16.  $8\sqrt{8} - 4\sqrt{32} - 9\sqrt{50}$

17.  $-2\sqrt{8} - 3\sqrt{27} + 1\sqrt{98}$

18.  $\sqrt{25x} - \sqrt{8x} + \sqrt{16x}$

19.  $3\sqrt{8x} + \sqrt{27x} - 8\sqrt{75x}$