

Name: _____

Period: _____ Date: _____

Adding and Subtracting Radicals

if: $3x + 7x - 6x = 4x$

if: $4y + 7 - 2y - 13 = 2y - 6$

then: $3\sqrt{5} + 7\sqrt{5} - 6\sqrt{5} = 4\sqrt{5}$

then: $4\sqrt{3} + 7 - 2\sqrt{3} - 13 = 2\sqrt{3} - 6$

or simplify radicals to be able to combine

ie: $5\sqrt{18} - 2\sqrt{2} = 5\sqrt{3 \cdot 3 \cdot 2} - 2\sqrt{2} = 5 \cdot 3\sqrt{2} - 2\sqrt{2} = 15\sqrt{2} - 2\sqrt{2} = 13\sqrt{2}$

Section I. Combine like terms to simplify

1. $3\sqrt{2} - 6\sqrt{2} + 10\sqrt{2} =$ _____

2. $5\sqrt{11} - 7 - 2\sqrt{11} + 13 + 18\sqrt{11} =$ _____

3. $6 + 9\sqrt{3} - 10 =$ _____

4. $2\sqrt{5} - 6\sqrt{13} - 10 + 3\sqrt{5} + 7 =$ _____

5. $3\sqrt{12} - 4\sqrt{27} =$ _____

6. $6 + 9\sqrt{125} + 7 - 2\sqrt{45} =$ _____

7. $6\sqrt{18} - 4\sqrt{100} - 10\sqrt{50} + 3\sqrt{196} =$ _____