

## 11.1 Simplifying Radicals

Algebra 1

Name: \_\_\_\_\_

CA #1

Approximate the square root to one decimal. Justify your answer with inequalities.

1.  $\sqrt{85}$

2.  $\sqrt{11}$

3.  $\sqrt{110}$

4.  $\sqrt{59}$

5.  $\sqrt{124}$

Simplify the following radicals. You can use any strategy EXCEPT a calculator. 😊

6.  $\sqrt{48}$

7.  $\sqrt{72}$

8.  $\sqrt{24} \cdot \sqrt{3}$

9.  $\sqrt{54} \cdot \sqrt{30}$

10.  $\sqrt{45} - 2\sqrt{5}$

11.  $\sqrt{14} \cdot 5\sqrt{21}$

12.  $\sqrt{80}$

13.  $2\sqrt{54} + 3\sqrt{6}$

14.  $\sqrt{250}$

15.  $4\sqrt{18} \cdot 2\sqrt{6}$

16.  $\sqrt{12} - 3\sqrt{27}$

**Answers to 11.1 CA #1**

1. $\sqrt{81} < \sqrt{85} < \sqrt{100}$ About 9.2	2. $\sqrt{9} < \sqrt{11} < \sqrt{16}$ About 3.3	3. $\sqrt{100} < \sqrt{110} < \sqrt{121}$ About 10.5	4. $\sqrt{49} < \sqrt{59} < \sqrt{64}$ About 7.7
5. $\sqrt{121} < \sqrt{124} < \sqrt{144}$ About 11.1	6. $4\sqrt{3}$	7. $6\sqrt{2}$	8. $6\sqrt{2}$
9. $18\sqrt{5}$	10. $\sqrt{5}$	11. $35\sqrt{6}$	12. $4\sqrt{5}$
13. $9\sqrt{6}$	14. $5\sqrt{10}$	15. $48\sqrt{3}$	16. $-7\sqrt{3}$