

Work/Read through the example on the left (the odds), then work the problem on the right (the evens) on your own following the example. Continue until you have worked all of the problems.

1. Simplify $\sqrt{54} + 3\sqrt{6}$	2. Simplify $4\sqrt{5} + \sqrt{125}$
3. Simplify $-4\sqrt{7} + 3\sqrt{49} - \sqrt{63}$	4. Simplify $-3\sqrt{48} - \sqrt{9} + \sqrt{27}$
5. Simplify $\sqrt{14} \cdot 3\sqrt{7}$	6. Simplify $\sqrt{3} \cdot 2\sqrt{12}$

7. Simplify $\sqrt{3}(2\sqrt{3} - 2\sqrt{6})$

8. Simplify $\sqrt{15}(2 - 2\sqrt{5})$

9. Simplify $\frac{5}{\sqrt{9}}$

10. Simplify $\frac{6}{\sqrt{7}}$

11. Simplify $\frac{\sqrt{2}}{\sqrt{5}+3}$

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

13. Solve the equation by taking square roots.

$$3x^2 + 7 = 31$$

14. Solve the equation by taking square roots.

$$2x^2 + 14 = 70$$

15. Solve the equation by factoring.

$$3x^2 - x = 2$$

16. Solve the equation by factoring.

$$x^2 - 49 = 0$$

(hint: how many terms are in this equation?)

17. Solve the equation.

$$\sqrt{10x + 9} = x + 3$$

18. Solve the equation.

$$\sqrt{7x + 15} = x + 1$$

19. Solve the equation.

$$\sqrt[3]{2x - 9} - 1 = 2$$

20. Solve the equation.

$$\sqrt[3]{2x - 5} - 2 = 3$$

21. Solve the inequality.

$$3\sqrt{x} - 4 \leq 8$$

22. Solve the inequality.

$$2\sqrt{x} - 3 \geq 3$$

23. Solve the inequality.

$$4\sqrt[3]{x + 1} \geq 8$$

24. Solve the inequality.

$$\sqrt[3]{x - 1} + 2 \leq 3$$