Simplifying Square Roots

To simplify a square root (second root)
1. Rewrite the radicand as a product of a perfect square and some other number,
2. Take the square root of the number you know.
3. The number you don't know the square root of stays inside the radical.

Perfect Squares;   1, 4, 9, 16, 25, 36, 49, 64, 81, 100, …

Example   Simplify $\sqrt{75}$
1. $\sqrt{25 \cdot 3}$
2   $5\sqrt{3}$

Example   Simplify $\sqrt{72}$
1. $\sqrt{36 \cdot 2}$
2. $6\sqrt{2}$

Simplify.

1. $\sqrt{81}$

2. $\sqrt{40}$

3. $\sqrt{99}$

4. $\sqrt{49}$

5. $\sqrt{48}$

6. $\sqrt{64}$

7. $\sqrt{180}$

8. $\sqrt{700}$

9. $\sqrt{80}$

10. $\sqrt{112}$

11. $\sqrt{18}$

12. $\sqrt{128}$