Simplifying Radicals

Simplify each radical by finding the largest perfect square factor. Show your work by writing the radical as a product, then simplifying. Example: $\sqrt{12} = \sqrt{(4 \times 3)} = \sqrt{4} \times \sqrt{3} = 2\sqrt{3}$

1. $\sqrt{50} =$

2. $\sqrt{12} =$

3. $\sqrt{75} =$

4. $\sqrt{32} =$

5. $\sqrt{18} =$

6. $\sqrt{98} =$

7. $\sqrt{24} =$

8. $\sqrt{72} =$

9. $\sqrt{27} =$

10. $\sqrt{80} =$

11. $\sqrt{45} =$

12. $\sqrt{20} =$

13. $\sqrt{108} =$

14. $\sqrt{48} =$

15. $\sqrt{63} =$

16. $\sqrt{200} =$

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Simplify each radical by finding the largest perfect square factor. Show your work by writing the radical as a product, then simplifying. Example: $\sqrt{12} = \sqrt{(4 \times 3)} = \sqrt{4} \times \sqrt{3} = 2\sqrt{3}$

1. $\sqrt{50} =$

$\sqrt{50} = \sqrt{(25 \times 2)} = \mathbf{5\sqrt{2}}$

2. $\sqrt{12} =$

$\sqrt{12} = \sqrt{(4 \times 3)} = \mathbf{2\sqrt{3}}$

3. $\sqrt{75} =$

$\sqrt{75} = \sqrt{(25 \times 3)} = \mathbf{5\sqrt{3}}$

4. $\sqrt{32} =$

$\sqrt{32} = \sqrt{(16 \times 2)} = \mathbf{4\sqrt{2}}$

5. $\sqrt{18} =$

$\sqrt{18} = \sqrt{(9 \times 2)} = \mathbf{3\sqrt{2}}$

6. $\sqrt{98} =$

$\sqrt{98} = \sqrt{(49 \times 2)} = \mathbf{7\sqrt{2}}$

7. $\sqrt{24} =$

$\sqrt{24} = \sqrt{(4 \times 6)} = \mathbf{2\sqrt{6}}$

8. $\sqrt{72} =$

$\sqrt{72} = \sqrt{(36 \times 2)} = \mathbf{6\sqrt{2}}$

9. $\sqrt{27} =$

$\sqrt{27} = \sqrt{(9 \times 3)} = \mathbf{3\sqrt{3}}$

10. $\sqrt{80} =$

$\sqrt{80} = \sqrt{(16 \times 5)} = \mathbf{4\sqrt{5}}$

11. $\sqrt{45} =$

$\sqrt{45} = \sqrt{(9 \times 5)} = \mathbf{3\sqrt{5}}$

12. $\sqrt{20} =$

$\sqrt{20} = \sqrt{(4 \times 5)} = \mathbf{2\sqrt{5}}$

13. $\sqrt{108} =$

$\sqrt{108} = \sqrt{(36 \times 3)} = \mathbf{6\sqrt{3}}$

14. $\sqrt{48} =$

$\sqrt{48} = \sqrt{(16 \times 3)} = \mathbf{4\sqrt{3}}$

15. $\sqrt{63} =$

$\sqrt{63} = \sqrt{(9 \times 7)} = \mathbf{3\sqrt{7}}$

16. $\sqrt{200} =$

$\sqrt{200} = \sqrt{(100 \times 2)} = \mathbf{10\sqrt{2}}$