Simplifying Radicals with Variables

Simplify each radical expression. Assume all variables represent positive real numbers.

Example: $\sqrt{9x^2} = \sqrt{9} \times \sqrt{x^2} = 3x$ Example: $\sqrt{x^6} = x^3$ (since $x^6 = (x^3)^2$)

1. $\sqrt{x^2} =$

2. $\sqrt{25x^2} =$

3. $\sqrt{x^4} =$

4. $\sqrt{36x^2} =$

5. $\sqrt{x^3} =$

6. $\sqrt{x^8} =$

7. $\sqrt{x^{10}} =$

8. $\sqrt{49x^4} =$

9. $\sqrt{4x^3} =$

10. $\sqrt{x^{12}} =$

11. $\sqrt{64x^8} =$

12. $\sqrt{81x^2} =$

13. $\sqrt{9x^5} =$

14. $\sqrt{100x^4} =$

15. $\sqrt{x^7} =$

16. $\sqrt{121x^6} =$

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1. $\sqrt{x^2} = x$

2. $\sqrt{25x^2} = 5x$

3. $\sqrt{x^4} = x^2$

4. $\sqrt{36x^2} = 6x$

5. $\sqrt{x^3} = (x^2 \times x) = x\sqrt{x}$

6. $\sqrt{x^8} = x^4$

7. $\sqrt{x^{10}} = x^5$

8. $\sqrt{49x^4} = 7x^2$

9. $\sqrt{4x^3} = 4x^2 \times x = 2x\sqrt{x}$

10. $\sqrt{x^{12}} = x^6$

11. $\sqrt{64x^8} = 8x^4$

12. $\sqrt{81x^2} = 9x$

13. $\sqrt{9x^5} = 9x^4 \times x = 3x^2\sqrt{x}$

14. $\sqrt{100x^4} = 10x^2$

15. $\sqrt{x^7} = x^6 \times x = x^3\sqrt{x}$

16. $\sqrt{121x^6} = 11x^3$