

Multiplying Radicals with Variables

Multiply each pair of radicals. Write your answer in simplest radical form. Assume all variables represent positive real numbers.

1. $\sqrt{x} \cdot \sqrt{x} =$

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

2. $\sqrt{3x} \cdot \sqrt{3x} =$

10. $\sqrt{7x} \cdot \sqrt{28x^3} =$

3. $\sqrt{5x} \cdot \sqrt{20x} =$

11. $\sqrt{12x^2} \cdot \sqrt{3x} =$

4. $\sqrt{2x} \cdot \sqrt{8x} =$

12. $\sqrt{5x^3} \cdot \sqrt{20x} =$

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

13. $\sqrt{18x} \cdot \sqrt{2x^3} =$

6. $\sqrt{6x} \cdot \sqrt{24x} =$

14. $\sqrt{16x^2} \cdot \sqrt{x} =$

7. $\sqrt{4x^2} \cdot \sqrt{9x} =$

15. $\sqrt{x^5} \cdot \sqrt{x} =$

8. $\sqrt{10x} \cdot \sqrt{40x} =$

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

Multiplying Radicals with Variables

Multiply each pair of radicals. Write your answer in simplest radical form. Assume all variables represent positive real numbers.

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

9. $\sqrt{x^2} \cdot \sqrt{x^4} = \sqrt{x^6} = x^3$

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

10. $\sqrt{7x} \cdot \sqrt{28x^3} = \sqrt{196x^4} = 14x^2$

3. $\sqrt{5x} \cdot \sqrt{20x} = \sqrt{100x^2} = 10x$

11. $\sqrt{12x^2} \cdot \sqrt{3x} = \sqrt{36x^3} = 6x\sqrt{x}$

4. $\sqrt{2x} \cdot \sqrt{8x} = \sqrt{16x^2} = 4x$

12. $\sqrt{5x^3} \cdot \sqrt{20x} = \sqrt{100x^4} = 10x^2$

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

13. $\sqrt{18x} \cdot \sqrt{2x^3} = \sqrt{36x^4} = 6x^2$

6. $\sqrt{6x} \cdot \sqrt{24x} = \sqrt{144x^2} = 12x$

14. $\sqrt{16x^2} \cdot \sqrt{x} = \sqrt{16x^3} = 4x\sqrt{x}$

7. $\sqrt{4x^2} \cdot \sqrt{9x} = \sqrt{36x^3} = 6x\sqrt{x}$

15. $\sqrt{x^5} \cdot \sqrt{x} = \sqrt{x^6} = x^3$

8. $\sqrt{10x} \cdot \sqrt{40x} = \sqrt{400x^2} = 20x$

16. $\sqrt{9x^3} \cdot \sqrt{4x} = \sqrt{36x^4} = 6x^2$