

Name: _____

Date: _____

Operations with Radical Expressions

Multiplying Radical Expressions:

⊙ **Steps:**

1. Multiply numbers _____ the radical with other numbers _____ the radical.
2. Multiply _____ with other _____.
3. _____, if possible.

Multiply:

1. $\sqrt{18} \cdot \sqrt{5}$

2. $\sqrt{12} \cdot 2\sqrt{6}$

3. $3\sqrt{2} \cdot 5\sqrt{4}$

4. $7\sqrt{2}(4 - \sqrt{3})$

5. $\sqrt{3} \cdot \sqrt{12}$

6. $\sqrt{5}(\sqrt{2} + 1)$

7. $-4\sqrt{2} \cdot 3\sqrt{3}$

8. $\sqrt{2x} \cdot \sqrt{6x}$

9. $\sqrt{10xy} \cdot \sqrt{2xy^2}$

10. $\sqrt{5}(\sqrt{15} + \sqrt{2})$

11. $(5\sqrt{2} + \sqrt{3})(\sqrt{2} + 2\sqrt{3})$

12. $(\sqrt{6} - \sqrt{3})^2$

Multiply each expression.

1. $8\sqrt{3} \cdot 5\sqrt{2}$

2. $-4\sqrt{5} \cdot 9\sqrt{6}$

3. $3\sqrt{8} \cdot 2\sqrt{5}$

4. $12\sqrt{3} \cdot 5\sqrt{15}$

5. $5\sqrt{18}(-2\sqrt{8})$

6. $2\sqrt{5} \cdot 7\sqrt{35}$

7. $-6\sqrt{32}(-6\sqrt{2})$

8. $\sqrt{2x} \cdot \sqrt{6x}$

9. $\sqrt{30x} \cdot \sqrt{3x^3}$

10. $\sqrt{15x^2} \cdot \sqrt{10x^2}$

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

12. $5\sqrt{xy} \cdot 3\sqrt{xy^2}$

13. $\sqrt{10xy^2} \cdot \sqrt{2xy^2}$

14. $\sqrt{18y^5} \cdot \sqrt{2xy}$

15. $\sqrt{20xy^2} \cdot \sqrt{35xy^3}$

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

17. $\sqrt{3}(1+\sqrt{27})$

18. $8\sqrt{3}(2\sqrt{3}+\sqrt{8})$

19. $(5\sqrt{2}-\sqrt{3})^2$

20. $(\sqrt{3}+8)^2$

21. $(7+\sqrt{2})(7-\sqrt{2})$

