

Name:

Date:

Topic:

Class:

Main Ideas/Questions

Notes/Examples

Multiplying Radicals

- ① Multiply coefficients.
- ② Multiply the radicands using the the **PRODUCT RULE**: $\sqrt{a} \cdot \sqrt{b} =$
- ③ **SIMPLIFY** the resulting radical.

Examples

Directions: Find each product. Write your answer in simplest radical form.

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

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

3. $5\sqrt{10} \cdot -7\sqrt{12}$

4. $-4\sqrt{14} \cdot 2\sqrt{8}$

5. $4\sqrt{6n^2} \cdot \sqrt{6n}$

6. $-5\sqrt{20x} \cdot 3\sqrt{15x}$

7. $2\sqrt{15w^3} \cdot \sqrt{3w^4}$

8. $7\sqrt{12a^3} \cdot -2\sqrt{6a}$

9. $10\sqrt{2} \cdot 3\sqrt{10} - 6\sqrt{5}$

10. $7x^3\sqrt{6} + \sqrt{12x^2} \cdot \sqrt{2x^4}$

WATCH OUT
for the order
of operations!



<p>Using the Distributive Property</p>	<p>Example 1: $\sqrt{6}(3+\sqrt{8})$</p>	<p>Example 2: (FOIL!) $(4+\sqrt{3})(2-\sqrt{3})$</p>
<p>More Examples</p>	<p>Directions: Find each product. Write your answer in simplest radical form.</p>	
	<p>11. $\sqrt{15}(2+\sqrt{5})$</p>	<p>12. $3\sqrt{10}(5+4\sqrt{2})$</p>
	<p>13. $-2\sqrt{3}(3\sqrt{10}-3\sqrt{6})$</p>	<p>14. $-4\sqrt{2}(\sqrt{6}+3\sqrt{14})$</p>
	<p>15. $(\sqrt{5}+2)(\sqrt{5}+4)$</p>	<p>16. $(\sqrt{2}-6)(\sqrt{2}+5)$</p>
	<p>17. $(6\sqrt{3}-2)(5\sqrt{3}-4)$</p>	<p>18. $(2\sqrt{7}+1)^2$</p>