

Unit 9

Name _____

Remediation Objective 4**Multiplying Radicals:**

1. Multiply the numerical coefficients together and multiply the radicands together.
2. Simplify the new radicand.

Ex. $4\sqrt{3} \cdot 5\sqrt{7} = 4 \cdot 5 \cdot \sqrt{3} \cdot \sqrt{7} = 20\sqrt{21}$

Ex. $2\sqrt{10} \cdot 8\sqrt{2} = 2 \cdot 8 \cdot \sqrt{10} \cdot \sqrt{2} = 16 \cdot \sqrt{20} = 16 \cdot \sqrt{4} \cdot \sqrt{5}$
 $= 16 \cdot 2 \cdot \sqrt{5} = 32\sqrt{5}$

Ex. $(2\sqrt{5})^2 = (2\sqrt{5}) \cdot (2\sqrt{5}) = 4 \cdot \sqrt{25} = 4 \cdot 5 = 20$

Practice:

1. $\sqrt{2}\sqrt{11} = \underline{\hspace{2cm}}$

2. $\sqrt{5}\sqrt{7} = \underline{\hspace{2cm}}$

3. $\sqrt{8}\sqrt{6} = \underline{\hspace{2cm}}$

4. $3\sqrt{6} \cdot 4\sqrt{14} = \underline{\hspace{2cm}}$

5. $5\sqrt{10} \cdot 13\sqrt{15} = \underline{\hspace{2cm}}$

6. $-3\sqrt{5} \cdot 7\sqrt{35} = \underline{\hspace{2cm}}$

7. $(7\sqrt{5})^2 = \underline{\hspace{2cm}}$

8. $(-5\sqrt{11})^2 = \underline{\hspace{2cm}}$

9. $(2\sqrt{17})^2 = \underline{\hspace{2cm}}$

10. $2(\sqrt{100})^2 = \underline{\hspace{2cm}}$

11. $\sqrt{3}(\sqrt{5} + \sqrt{3}) = \underline{\hspace{2cm}}$

12. $\sqrt{6}(\sqrt{2} - \sqrt{3}) = \underline{\hspace{2cm}}$

13. $\sqrt{7}(\sqrt{2} - \sqrt{14}) = \underline{\hspace{2cm}}$

14. $\sqrt{11}(\sqrt{22} + \sqrt{33}) = \underline{\hspace{2cm}}$