Name: _____ Date: _____ **Unit 8 Class Work**

Simplifying Radical Expressions Class Work

Objective: *You will be able to simplify radical expressions and uncover and apply a generalized rule for simplifying.*

★ Quick Review

A. Simplify $x^4 * x^3 * x^2 * x$

B. Simplify $(x^3)^5$

C. Simplify $\sqrt{x^8}$.

D. Simplify $\sqrt{w^9}$.

★ Guided Example: Simplify $\sqrt{32x^2y^8z^5}$.

Now You Try Some! *Simplify each expression.*

1. $\sqrt{200r^7s^4t^{21}}$

2. $\sqrt{72h^9k^3j}$

3. $(\sqrt{9b^4c^8})^3$

4. $(\sqrt{16p^{24}q^{18}})^3$

★ Turn & Talk: How can you simplify the expression: $\sqrt[3]{-8v^3w^{12}}$?

Try Some More! *Simplify each expression.*

5. $\sqrt[3]{-128x^9y^{18}z}$

6. $\sqrt[3]{81p^{12}q^{21}r^6}$

7. $\sqrt[3]{-64m^3n^{13}}$

8. $\sqrt[3]{250c^{20}d^{11}}$

★ **With Your Group:** Use the examples to see if you can create a generalized rule for simplifying!

A. $\sqrt[4]{16p^4r^8}$ =

B. $\sqrt[4]{m^{24}}$ =

C. $\sqrt[5]{b^5c^{15}}$ =

D. $\sqrt[6]{w^{12}y^{24}}$ =

☆In general: $\sqrt[n]{x^m}$ =

Try Some More! *Simplify each expression.*

9. $\sqrt[4]{81x^{40}y^{28}z^2}$ =

10. $\sqrt[4]{256m^{32}n^{16}p}$ =

Name: _____ Date: _____ **Unit 8 Class Work**

11. $\sqrt[7]{q^{28}r^4s^7}$ =

12. $\sqrt[5]{-32t^{30}u^{10}v^{15}}$ =

13. $\sqrt[3]{343x^{33}y^2z}$ =

14. $(\sqrt[3]{27m^9n^{15}})^4$ =

15. $(\sqrt[3]{8p^3n^{21}})^5$ =

16. $(\sqrt[4]{256k^{12}m^{20}})^3$ =

***Quick Exit Slip:** Simplify each expression.

1. $\sqrt{125h^{11}k^{32}j}$ =

2. $(\sqrt[3]{-8m^6n^{18}})^4$ =

3. $\sqrt[8]{t^8u^{24}v^{56}}$ =

Write any questions you still have regarding simplifying radical expressions.