Algebra 1   Mathematician: _____

Unit 1 Algebraic Foundations   Period:_____

1.3C Rewrite Radicals in Rational Exponential Form

LEVEL: EMERGING

Directions: Rewrite the radicals in rational exponential form.

1) $\sqrt{5}$

2) $\sqrt[3]{4}$

3) $\sqrt[3]{x}$

4) $\sqrt[5]{x^3}$

Directions: Rewrite the expressions in radical form.

5) $6^{\frac{1}{4}}$

6) $5^{\frac{1}{3}}$

7) $7^{\frac{1}{2}}$

8) $8^{\frac{3}{4}}$

LEVEL: PROFICIENT

Directions: Rewrite the radicals in rational exponential form.

9) $\sqrt{7x}$

10) $\sqrt[5]{14^5}$

11) $\sqrt[3]{x^7}$

12) $\sqrt[3]{2x^2}$

Directions: Rewrite the expressions in radical form.

13) $10^{\frac{2}{3}}$

14) $17^{\frac{7}{2}}$

15) $(2+x)^{\frac{1}{2}}$

16) $\left(\frac{1}{4}\right)^{\frac{1}{5}}$

LEVEL: MASTERY

17) Show that the following expressions are equivalent.

$$\sqrt{21^2} = 21$$

18) Show that the following expressions are equivalent.

$$16^{\frac{1}{2}} = 4$$

19) Show that the following expressions are equivalent.

$$8^{\frac{2}{3}} = 4$$

Worksheet 1.3C Answers

1. $5^{\frac{1}{2}}$

2. $4^{\frac{1}{3}}$

3. $x^{\frac{1}{3}}$

4. $x^{\frac{3}{5}}$

5. $\sqrt[4]{6}$

6. $\sqrt[3]{5}$

7. $\sqrt{7}$

8. $\sqrt[4]{8^3}$

9. $(7x)^{\frac{1}{2}}$

10. 14

11. $x^{\frac{7}{3}}$

12. $(2x^2)^{\frac{1}{3}}$

13. $\sqrt[3]{10^2}$

14. $\sqrt[2]{17^7}$

15. $\sqrt{2+x}$

16. $\sqrt[5]{4}$

17. Answers may vary

18. Answers may vary

19. Answers may vary