

Algebra II Class work 5-7
Topic: Rational Exponents

Name: _____
Date: _____ PD _____

Evaluate

1. $\sqrt[3]{-27}$

2. $\sqrt{\frac{25}{81}}$

3. $\sqrt[4]{81}$

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

Write each radical expression in exponential form

5. $\sqrt[4]{2x}$

6. $5\sqrt{c}$

7. $\sqrt{5x}$

8. $\sqrt{3x^2y^3z^{16}}$

Simplify

9. $x^{\frac{3}{4}} \cdot x^{\frac{4}{7}}$

10. $x^{\frac{3}{4}} \cdot x^{\frac{7}{4}}$

11. $a^{\frac{2}{3}} \cdot a^{\frac{4}{3}} \cdot a^{\frac{-5}{3}}$

12. $a^{\frac{3}{7}} \cdot a^{\frac{10}{7}} \cdot a^{\frac{-4}{7}}$

13. $\left(x^{\frac{2}{3}}\right)^6$

14. $\left(x^3\right)^{\frac{2}{3}}$

15. $\left(a^{\frac{5}{4}} \cdot b^{-5}\right)^{\frac{4}{5}}$

16. $\left(a^{\frac{1}{2}} \cdot b^{\frac{-1}{3}}\right)^{-3}$

17. $\left(\frac{x^{\frac{3}{5}}y^{\frac{-3}{10}}}{z^{\frac{2}{5}}}\right)^{\frac{5}{6}}$

18. $\frac{x^{\frac{3}{4}}y^{\frac{2}{3}}}{x^{\frac{1}{4}}y^{\frac{1}{3}}}$