

**Math 2 – Understanding Rational Exponents & Radicals
Assignment #32**

Name: _____ **Per:** _____

Write each expression in radical form.

1) $(10a)^{\frac{5}{2}}$

2) $(2p^3)^{\frac{5}{2}}$

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

4) $x^{\frac{4}{5}}$

5) $(5x)^{\frac{3}{2}}$

6) $(2r)^{\frac{5}{4}}$

Write each expression in exponential form.

7) $(\sqrt[3]{4a})^4$

8) $(\sqrt[3]{10r})^5$

9) $(\sqrt{r})^5$

10) $\sqrt[3]{5x}$

11) $(\sqrt[3]{7x})^5$

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

Find the root(s) and simplify the expression.

13) $81^{\frac{1}{2}}$

14) $125^{\frac{1}{3}}$

15) $49^{\frac{1}{2}} - 4^{\frac{1}{2}}$

16) $16^{\frac{1}{4}} + 32^{\frac{1}{5}}$

Simplify the expression with rational exponents.

17) $49^{\frac{3}{2}}$

18) $8^{\frac{5}{3}}$

19) $27^{\frac{4}{3}} + 4^{\frac{3}{2}}$

20) $25^{\frac{3}{2}} + 16^{\frac{3}{2}}$

Simplify the expression.

21) $25^{-\frac{1}{2}}$

22) $8^{-\frac{1}{3}}$

23) $\frac{25^{\frac{1}{2}}}{27^{\frac{1}{3}}}$

24) $64^{\frac{1}{3}}$