Name:_____Hr:_____

Section 1.4 Exponents in Radical Form or Rational Form

Write the following expressions in radical form.

1. $7^{\frac{1}{2}}$
2. $5^{\frac{3}{4}}$
3. $4x^{\frac{3}{2}}$
4. $(5x)^{-\frac{5}{4}}$
5. $6v^{1.5}$
6. $(10n)^{\frac{3}{4}}$
7. $8y^{\frac{3}{7}}$

Write the following expressions in exponential form.

8. $(\sqrt{10x})^3$
9. $(\sqrt[5]{3})^4$
10. $\sqrt[6]{2}$
11. $\sqrt[3]{7p^8}$
12. $(\sqrt[3]{5a})^4$
13. $\frac{1}{(\sqrt[2]{3k})^5}$
14. $\sqrt{5b^5}$

Simplify

15. $\sqrt[6]{64}$
16. $\sqrt[3]{125^4}$
17. $32^{\frac{2}{5}}$
18. $16^{\frac{1}{2}}$

Simplify the following expressions; write your answers with positive exponents:

19. $4t^{\frac{1}{4}}u^2 \cdot 3t^{-\frac{1}{2}}u^{\frac{3}{4}}$

20. $q^{-\frac{2}{5}}$

21. $-2ax^{-\frac{1}{3}}$

22. $\left(\frac{5a^{-\frac{2}{3}}b^5}{10b^2c^{\frac{1}{6}}}\right)^3$

Simplify the following expressions with "zero" exponents:

23. -2^0

24. $(-2)^0$

25. $(-2x)^0$

26. $-2x^0$