

Name:

Period:

Date:

**Practice Worksheet: Simplifying Radical Expressions**

Simplify completely using properties of exponents.

1.  $(9c^4)^{1/2} =$

6.  $(49x^6)^{1/2} =$

11.  $(64m^4)^{3/2} =$

2.  $(64n^{12})^{-1/6} =$

7.  $(25b^6)^{-3/2} =$

12.  $(343a^3)^{-4/3} =$

3.  $3b^{1/2}b^{4/3} =$

8.  $w^2 \cdot 3w^{3/4} \cdot 6w^{-2} =$

13.  $2m^2 \cdot 4m^{3/2} \cdot (4m^{1/2})^{-2} =$

4.  $\frac{4b^2}{2b^{1/2}} =$

9.  $\frac{2x^{-7/4}}{4x^{4/3}} =$

14.  $\left(\frac{g^{1/2}h^{-2}}{gh^{-7/4}}\right)^4 =$

5.  $(t \cdot t^{-2} \cdot t^{5/3})^2 =$

10.  $(a^{-1} \cdot b^{1/3} \cdot a^{-4/3} \cdot b^2)^2 =$

15.  $\frac{(x^3y^2)^{3/2}}{(x^{-1}y^{-2/3})^{1/4}} =$

Simplify completely using properties of radicals. Rationalize the denominator when needed.

16. $\sqrt{512m^3} =$	17. $\sqrt{200m^3n^4} =$	18. $7\sqrt{96rs^4t^3} =$
19. $\sqrt[4]{128n^8} =$	20. $\sqrt[3]{-16a^3b^8} =$	21. $\sqrt[6]{448x^{13}y^{24}} =$
22. $\frac{1}{\sqrt{8}} =$	23. $\frac{\sqrt{3}}{3\sqrt{6}} =$	24. $\frac{\sqrt{36h^2}}{h\sqrt{3}} =$
25. $\frac{\sqrt[3]{10}}{\sqrt[3]{625}} =$	26. $\frac{\sqrt[4]{243x^9}}{\sqrt[4]{16x^8}} =$	27. $\frac{\sqrt[5]{64a^{10}b^7}}{4ab\sqrt[5]{2b^2}} =$