

**Algebra 1**  
**6.2 Practice**

Name \_\_\_\_\_

**Rewrite the expression in rational exponent form.**

1. $\sqrt[3]{6}$	2. $\sqrt[5]{7}$	3. $\sqrt{10}$
4. $(\sqrt[3]{7})^2$	5. $(\sqrt[4]{25})^7$	6. $(\sqrt[5]{-23})^3$

**Rewrite the expression in radical form.**

7. $15^{1/3}$	8. $40^{1/8}$	9. $(-4)^{2/7}$
10. $9^{5/2}$	11. $(-3)^{2/3}$	12. $28^{1/2}$

**Evaluate the expression.**

13. $\sqrt[4]{256}$	14. $\sqrt[3]{-216}$	15. $\sqrt[3]{-343}$
16. $-\sqrt[5]{1024}$	17. $128^{1/7}$	18. $(-64)^{1/2}$
19. $(-36)^{3/2}$	20. $32^{3/5}$	21. $(-243)^{2/5}$
19. $\left(\frac{1}{1000}\right)^{1/3}$	20. $\left(\frac{1}{64}\right)^{1/6}$	21. $(27)^{-2/3}$

22. The radius of a sphere is given by the equation  $r = \left(\frac{3V}{4\pi}\right)^{1/3}$ , where V is the volume of the sphere. Find the radius of each ball to the nearest tenth of an inch. Use 3.14 for  $\pi$ .

a. Baseball

Volume  $\approx$  12.3 cubic inches

b. Basketball

Volume  $\approx$  463 cubic inches

### More 6.1 Practice

1. $x^5y^4 \cdot x^3y$	2. $(3x^5)^2$	3. $\left(\frac{7x}{y^2}\right)^3$
4. $\frac{10x^9y}{20x^3y}$	5. $\frac{12x^{-5}y^3}{3x^5}$	6. $(3x^0y^5)^4$
7. $\left(\frac{6}{x}\right)^{-2}$	8. $(7x^2y^3)^2 \cdot (2xy^7)$	9. $9x^0$