

Algebra 2H  
Extra Practice 7-1, 7-2

HW# \_\_\_\_\_

Name \_\_\_\_\_

Date \_\_\_\_\_ Per. \_\_\_\_\_ Col. \_\_\_\_\_

*Simplify. Express each answer as an integer, a fraction, or a simplified exponential.*

1.  $\left(\frac{-27}{8}\right)^{-4/3}$

2.  $\frac{3^{2-3\sqrt{3}}}{3^{\sqrt{12}}} \cdot 3^{\sqrt{75}}$

3.  $\left(5^{1/4} \cdot 5^{2/3}\right)^2$

4.  $\frac{x^2 y^{-1/5}}{x^{2/3} y^{4/5}}$

5.  $\frac{56^{1/3}}{8^{1/3}}$

*Simplify. Express answers in simplest radical form. Assume that all radicals are defined.*

6.  $\sqrt{24x^3} \cdot \sqrt{3x^{10}}$

7.  $\sqrt[5]{320a^7 x^{12}}$

8.  $\sqrt[4]{32n^3 y} \cdot \sqrt[4]{9n^6 y^7}$

9.  $4(45)^{1/2} + (125)^{1/2}$

10.  $6\sqrt[3]{54} - \sqrt[3]{128}$

11.  $\sqrt{\frac{8}{7x^3}}$

**Simplify. Express answers in simplest radical form. Assume that all radicals are defined.**

12.  $\sqrt[3]{\frac{40}{9y}}$

13.  $\frac{\sqrt[3]{4}}{\sqrt[6]{4}}$

14.  $\frac{\sqrt[6]{32} \cdot \sqrt[4]{8}}{\sqrt[3]{16}}$

15.  $\sqrt{12a^4 - 12a^2b^2}$

**Solve for x. Round answers to the nearest hundredth.**

16.  $x = \left(\sqrt[4]{100}\right)^{-3}$

17.  $(x-4)^4 = 625$

18.  $2x^5 + 7 = 97$

**Answers:**

1.  $\frac{16}{81}$

2. 9

3.  $5^{11/6}$

4.  $\frac{x^{4/3}}{y}$

5.  $7^{1/3}$

6.  $6x^6\sqrt{2x}$

7.  $2ax^2\sqrt[5]{10a^2x^2}$

8.  $2n^2y^2\sqrt[4]{18n}$

9.  $17\sqrt{5}$

10.  $14\sqrt[3]{2}$

11.  $\frac{2\sqrt{14x}}{7x^2}$

12.  $\frac{2\sqrt[3]{15y^2}}{3y}$

13.  $\sqrt[3]{2}$

14.  $\sqrt[4]{2}$

15.  $2|a|\sqrt{3a^2 - 3b^2}$

16. .03

17. 9, -1

18. 2.14