

Name Key Class Alg II Date _____

Simplifying Radicals: HW: Lesson 2 Roots and Radical Expressions

Find all the real cube roots of each number.

1. 216

6

2. -343

-7

Find all the real square roots of each number.

3. 400

+20
-20

4. -196

None

Find all the real fourth roots of each number.

5. -81

None

6. 256

+4
-4

Simplify each radical expression. Use absolute value symbols when needed.

7. $\sqrt{121y^{10}}$

$|11y^5|$

8. $\sqrt[3]{8g^6}$

$2g^2$

9. $\sqrt[5]{243x^5y^{15}}$

$3xy^3$

Simplifying Radicals HW: Lesson 2 (Cont.) Multiplying and Dividing Radical Expressions

Multiply and simplify. Assume that all variables are positive.

10. $\sqrt{4} \cdot \sqrt{6}$

11. $\sqrt{9x^2} \cdot \sqrt{9y^5}$

12. $\sqrt[3]{50x^2z^5} \cdot \sqrt[3]{15y^3z}$

Show Work:

10.

$$2\sqrt{6}$$

11.

$$9xy^2\sqrt{y}$$

12.

$$5yz^2\sqrt[3]{6x^2}$$

Simplify. Assume that all variables are positive.

16. $\frac{\sqrt{36x^3}}{6x\sqrt{x}}$

17. $\frac{\sqrt[3]{125y^2z^4}}{5z\sqrt[3]{2z}}$

18. $\frac{\sqrt{18k^6}}{3k^2\sqrt{2}}$

19. $\frac{\sqrt[3]{-16a^{12}}}{-2a^4\sqrt[3]{2}}$

Divide and simplify. Assume that all variables are positive.

20. $\frac{\sqrt{6x}}{\sqrt{3x}}$

$$\sqrt{2}$$

21. $\frac{\sqrt[3]{4x^2}}{\sqrt[3]{x}}$

$$\sqrt[3]{4x}$$

22. $\frac{\sqrt[3]{18y^2}}{\sqrt[3]{12y}}$

$$\sqrt[3]{\frac{3y}{2}}$$