Algebra II A **Name**_____
Review 7.1-7.4

Rewrite the expression using rational exponent notation.

1. $\sqrt[4]{3}$

2. $\left(\sqrt[3]{2}\right)^5$

Rewrite the expression using radical notation. DO NOT SIMPLIFY.

3. $3^{\frac{1}{4}}$

4. $11^{\frac{7}{3}}$

Use your calculator to evaluate each expression.

5. $(32)^{1/5}$

6. $\sqrt[4]{81}$

Solve the equation. Remember to write both answers when the radical has an EVEN INDEX!

7. $2x^5 = 486$

8. $(x+2)^4 = 625$

9. $(2x-4)^3 = 64$

Evaluate the expression.

10. $\sqrt[3]{125x^{12}}$

11. $\left(16x^8\right)^{\frac{1}{4}}$

Simplify the expression using the product and quotient properties of radicals.

12. $\sqrt{3}\cdot\sqrt{5}$

13. $\dfrac{\sqrt{72}}{\sqrt{2}}$

Simplify the expression using the properties of rational exponents. Assume all variables are positive. Leave your answer in rational exponent form if applicable. (DO NOT WRITE IN SIMPLEST FORM.)

14. $x^{\frac{2}{3}}\cdot x^{\frac{4}{3}}$

15. $\left(x^{\frac{3}{4}}\right)^{\frac{1}{3}}$

16. $\dfrac{x^{\frac{3}{2}}}{x^{\frac{5}{6}}}$

17. $x^{-2/3}$

18. $\sqrt{162}$

19. $\sqrt[3]{108x^5}$

20. $\sqrt[3]{250x^4y^3}$

21. $\sqrt{a^{10}b^7}$

22. $\sqrt[4]{64a^4b^9}$

23. $\sqrt[5]{160x^5y^6}$

Perform the indicated operation. Assume all variables are positive.

24. $4\sqrt{7}-\sqrt{7}$

25. $5\sqrt{6}-\sqrt{24}$

26. $3\sqrt{27}+2\sqrt{75}$

27. $\sqrt[3]{24}+\sqrt[3]{81}$

Solve the equation. Make sure to check your answer.

28. $\sqrt[3]{x-6}=1$

29. $2\sqrt[3]{x+2}-5=123$

30. $(x+1)^{1/3}=-2$

Perform the operations given $f(x)=2x^2$, $g(x)=3x-2$ ***, and*** $h(x)=2x+5$ ***, then state the domain.***

31. $f+g$

32. $g-h$

33. $g\cdot h$

34. $\dfrac{h}{f}$

Find the composition and the domain of the composition. $f(x)=2x^2$, $g(x)=3x-2$ ***, and*** $h(x)=2x+5$

35. $f(h(x))$

36. $g(f(x))$

37. $f(g(4))$