Algebra II B   Name_____

Review 7.1-7.5

Simplify each expression.	
1. $(27)^{\frac{2}{3}}$	**2.** $\sqrt[4]{16}$

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

3. $2x^3 = 54$	**4.** $(x+8)^4 = 16$	**5.** $(2x-4)^2 = 64$ ....**Careful you have two answers for this one!**

Evaluate the expression.		*Simplify the expression using the product and quotient properties of radicals.*	
6. $\sqrt[3]{8x^{15}}$	**7.** $(8x^8)^{\frac{2}{3}}$	**8.** $\sqrt{5} \cdot \sqrt{5}$	**9.** $\dfrac{\sqrt{18}}{\sqrt{2}}$

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.)

10. $x^{\frac{2}{5}} \cdot x^{\frac{3}{5}}$	**11.** $\left(x^{\frac{3}{4}}\right)^{\frac{4}{3}}$	**12.** $\dfrac{x^{\frac{4}{3}}}{x^{\frac{5}{9}}}$	**13.** $\dfrac{x^{-\frac{2}{3}}}{x^{\frac{1}{3}}}$
14. $\sqrt{8a^{10}b^7}$	**15.** $\sqrt[3]{16a^4b^{10}}$	**16.** $\sqrt[5]{64x^7y^{11}}$	

Perform the indicated operation. Assume all variables are positive.

17. $4\sqrt{7} - 5\sqrt{7}$	**18.** $5\sqrt{7} - \sqrt{98}$	**19.** $2\sqrt[3]{24} + 3\sqrt[3]{81}$

Solve the equation. Make sure to check your answer.

20. $\sqrt[3]{x-5}=2$	**21.** $2\sqrt{x+3}-5=123$	**22.** $(x+1)^{3/2}=2^3$

Perform the operations given $f(x)=x^2-25$, $g(x)=3x^2-2$, **and** $h(x)=x+5$, **then state the domain.**

23. $f+g$	**24.** $g\cdot h$	**25.** $\dfrac{h}{f}$

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

26. $g(h(x))$	**27.** $g(f(-1))$	**28.** $f(g(4))$

Find the inverse of the following functions.

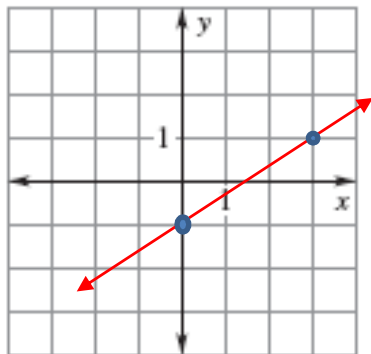|	
29. $f(x)=2x+1$	**30.** $f(x)=x^3-2$
$g(x)=$ _____	$g(x)=$ _____
$G(x)=$ _____	

Verify $f(x)$ and $g(x)$ are inverse functions. remember $f(g(x)) = g(f(x)) = x$

31. $f(x) = x^2$ and $g(x) = \sqrt{x}$

32. $f(x) = 2x + 1$ and $g(x) = \dfrac{x-1}{2}$

Draw the line $y = x$ and the inverse of the following graphs on the same plane.

33.

34.