Reminders: Please **show all your work** neatly <u>on this worksheet</u>.
This should be some of your most careful work!

Name: _____

	Show your work neatly (when relevant).	*Copy down your final answer.*
1.	Simplify/Evaluate. $27^{4/3}$	
2.	Write using rational exponents. Do not simplify: $\sqrt[3]{x^2} \cdot \sqrt{y^3}$	
3.	Simplify. Assume all variables to be positive: $\sqrt[3]{16x^5y^8}$	
4.	Simplify. Assume all variables to be positive: $\sqrt[5]{-\dfrac{32}{x^5}}$	
5.	Simplify. Assume all variables to be positive: $\sqrt[4]{8x^3y} \cdot \sqrt[4]{4xy^2}$	
6.	Simplify. Assume all variables to be positive: $3\sqrt{18} - 4\sqrt{32}$	
7.	Simplify. Assume all variables to be positive: $\dfrac{\sqrt[3]{16x^8}}{\sqrt[3]{2x^4}}$	
8.	Rationalize: $\sqrt{\dfrac{5}{x}}$	
9.	Rationalize: $\dfrac{\sqrt{2} - \sqrt{3}}{\sqrt{2} + \sqrt{3}}$	

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10.	Using the set of complex numbers, simplify. $\sqrt{-24}$	
11.	Multipliy and simplify: $(3 - 3i)(2 + 5i)$	
12.	Rationalize: $\dfrac{\sqrt{12}}{\sqrt{-3}}$	
13.	Simplify. a) i^{39} b) i^{400} c) i^{17} d) i^{110}	a) b) c) d)
14.	Solve using the square root property: $3x^2 - 2 = 0$	
15.	Solve using the square root property: $(x + 3)^2 + 9 = 0$	
16.	Solve the following using the quadratic formula. $x(x + 9) = 4(2x + 5)$	
17.	Find all the x-intercepts of: $5x^2 - 20x = 0$ Give them as ordered pairs.	
18.	Find all the x-intercepts of: $x^3 - x^2 - 25x + 25 = 0$ Give them as ordered pairs.	
19.	Factor completely: $10x^2 - 26x - 12$	
20.	Factor completely: $125x^3 - 27$	