

Name: _____

Date: _____

Unit 1 Study Guide

What you need to know & be able to do	Things to remember		
Unit Conversions	K - Kilo H - Hecto D - Deka U - Base (m, g, L) D - Deci C - Centi M - Milli	1. Convert 1500g to hg.	2. A bowl of cereal weighs 60 oz. How heavy is it in pounds?
<ul style="list-style-type: none"> • There are 5280 feet in one mile • There are 0.034 ounces in one mL • There are 0.454 kg in one pound • There are 1.6 kilometers in 1 mile • There are 73 gallons in 2 barrels • There are 1.05 quarts in one liter • There are 4 quarts in one gallon • There are 16 ounces in a pound 		3. Convert 12 kilometers to feet.	4. Convert 4 hours to seconds.
Identify Vocabulary	<ul style="list-style-type: none"> • # of terms • Coefficients • Constants • Variables 	5. How many terms are in the expression $12x^3 + 7x^2 - 4x - 19$?	6. What are the variables, coefficients, and constants in the expression $20x^4 - 11x + 3$?
Simplifying Radicals	<ul style="list-style-type: none"> • Prime Factor the radicand and look for Pairs. 	7. $\sqrt{24x^2y^5}$	8. $-3x\sqrt{48x^3y^4}$
Adding and Subtracting Radicals	<ul style="list-style-type: none"> • You can only add or subtract if the radicand is the same. Try to simplify first. Simplify again at the end. 	9. $\sqrt{7x^2} - 3\sqrt{7x^2}$	10. $3\sqrt{18} - \sqrt{32} + 5\sqrt{2}$
Multiplying Radicals	<ul style="list-style-type: none"> • Multiply Outside by Outside and Inside by Inside. Simplify at the end. 	11. $-3\sqrt{5} \cdot 2\sqrt{30}$	12. $(4\sqrt{3x^3})(\sqrt{6xy})$

Classifying Numbers	Natural: 1, 2, 3... Whole: 0, 1, 2... Integer: -1, 0, 1... Rational: Can be written as a fraction Irrational: Non-repeating & Non-terminating decimal	13. Classify each as rational or irrational. a. -41 b. $36/9$ c. $\sqrt{45}$	14. Name all of the sets of numbers to which each belongs. (Natural, Whole, Integer, Rational, Irrational, Real) d. 6.919191... e. $-28/7$ f. 0
Interpreting Expressions (verbally and algebraically)	<ul style="list-style-type: none"> Look for key words Remember turn around word "than" & "from" 	15. Create an expression for "four less than three times a number"	16. Write 2 verbal descriptions of $\frac{n}{5}$
			17. Create an expression for "three times the difference of a number and two"
Add and Subtract Polynomials	<ul style="list-style-type: none"> -Combine like terms <ul style="list-style-type: none"> same variable same power -If subtracting, change subtraction sign to addition and change the signs of every term in the 2nd polynomial 	18. $(4x + 3x^2 - 7) + (-6x^2 + 4)$	19. $(4x^2 - 3x - 2) - (9x^2 + 3x - 7)$
Multiply polynomials	<ul style="list-style-type: none"> Use the distributive property then combine like terms if possible 	20. $2x(x^3 + 5x + 4)$	21. $(6x + 3)(4x - 8)$
Accuracy and Precision	<ul style="list-style-type: none"> Precision- smallest unit measured. If same unit, smallest place value. Accuracy- closest measure to the true value 	22. Which is more precise? .7 km or .735 km _____ 2 lb or 12 oz _____ 4 qt or 1 gal _____	23. Which is more accurate? Jane works in Kroger. She is testing the scales at the deli to make sure they are accurate. She uses a weight that is exactly 1 pound and gets the following results: Scale 1: 1.1 lb Scale 2: 1.12 lb Scale 3: 0.5 lb