**Essential Questions – Pre Algebra A & B**

#1 – How are numbers represented, compared, and ordered?

#2 – How are decimal numbers added, subtracted, multiplied, and divided?

#3 – What is the difference between rounding a number and estimating an answer?

#4 – How are fractions (mixed numbers) added, subtracted, multiplied, and divided?

#5 – Why do we need to be knowledgeable about all forms of numbers?

#6 – How is the study of patterns in math applicable to real life?

#7 – How can algebraic and numerical expressions be evaluated and simplified?

#8 – How are integers used to represent real-life situations?

#9 – How can integers be added, subtracted, multiplied and divided?

#10 – What are ordered pairs and how are they used?

#11 – How are one-step equations solved?

#12 – Why is it important to be able to model real-life problems using equations and/or inequalities?

#13 – How can metric and/or customary measurements from real-life situations be converted to another unit of measure within the same system?

#14 – What is the procedure for using formulas to solve real-life problems, and why are geometric formulas especially important?

#15 – What are the similarities and differences between perimeter and circumference? Area and volume?

#16 – How are the three main measures of central tendency calculated, and what does each one attempt to describe?
#17 – What determines the most appropriate type of measurement or representation of data for any given situation?

#18 – How are ratios, rates, and unit rates applicable to real-life situations?

#19 – What are proportions, and how can they be used to solve real-life problems?

#20 – What are the similarities and differences between congruent and similar figures?

#21 – What is the relationship between theoretical and experimental probability, and how is probability applicable to real-life situations?

#22 – What are the similarities and differences between equations and inequalities?

#23 – How is the distributive property and the combining of like terms helpful in mathematics?

#24 – How is percent of change applicable to real-life situations?

End of Pre-Algebra A/Beginning of Pre-Algebra B

#25 – How can one-step, two-step, and multi-step (including variables on both sides) equations and/or inequalities be solved?

#26 – What are some benefits to algebraically manipulating equations and/or formulas?

#27 – What is the difference between the solution to a linear equation in one variable, and the solution to a linear equation in two variables?

#28 – What are the three main techniques for graphing linear equations on the coordinate plane?

#29 – How can equations be determined from information given in a table of values, in a set of ordered pairs, or from a graph on the coordinate plane?

#30 – What is slope, and how is it useful in both creating and reading graphs?

#31 – What are the benefits of using graphs to model real-life situations?
#32 – How can individual or total angle measurements for polygons be calculated?

#33 – What is the Pythagorean Theorem, and how is it useful in determining unknown measurements?

#34 – What are some special angle relationships, and how are they useful in determining missing angle measurements?

#35 – How do the scales for measuring temperature compare to each other?

#36 – What is the relationship between distance, time, and rate of travel?

#37 – What is interest, and what kind of real-life situations involve interest?

#38 – What is the difference between a permutation and a combination?

#39 – What is scientific notation, and where is it useful?

#40 – What is the solution to a “system” of linear equations and/or inequalities?

#41 – What kind of real-life problems can be solved using linear inequalities and/or systems?

#42 – What are the similarities and differences between linear equations, linear inequalities, and absolute value equations?