Name _____ Date _____

Master 1.1

Unit Rubric: Patterns and Relations

	Not Yet Adequate	Adequate	Proficient	Excellent
Conceptual understanding				
• Shows understanding by demonstrating and explaining: – patterns in division – formulating linear relations to represent relationships in patterns – how variable and constants are used in a given expression – representing problems with linear equations	little understanding; may be unable to demonstrate or explain: – patterns in division – formulating linear relations to represent relationships in patterns – how variable and constants are used – representing problems with linear equations	some understanding; partially able to demonstrate and explain: – patterns in division – formulating linear relations to represent relationships in patterns – how variable and constants are used – representing problems with linear equations	shows understanding; able to appropriately demonstrate and explain: – patterns in division – formulating linear relations to represent relationships in patterns – how variable and constants are used – representing problems with linear equations	shows depth of understanding; in various contexts, able to thoroughly demonstrate and explain: – patterns in division – formulating linear relations to represent relationships in patterns – how variable and constants are used – representing problems with linear equations
Procedural knowledge				
• Accurately: – applies divisibility rules – translates between patterns and equivalent linear relations – represents linear relations in tables and graphs – solves simple equations	limited accuracy; major errors or omissions in: – applying divisibility rules – translating between patterns and equivalent linear relations – representing linear relations in tables and graphs – solving simple equations	partially accurate; frequent minor errors or omissions in: – applying divisibility rules – translating between patterns and equivalent linear relations – representing linear relations in tables and graphs – solving simple equations	generally accurate; few errors or omissions in: – applying divisibility rules – translating between patterns and equivalent linear relations – representing linear relations in tables and graphs – solving simple equations	accurate; no errors or omissions in: – applying divisibility rules – translating between patterns and equivalent linear relations – representing linear relations in tables and graphs – solving simple equations
Problem-solving skills				
• Models and solves problems using linear equations	may be unable to model or solve problems	with limited help, able to partially solve problems	successfully solves problems	consistent and often innovative in solving problems
Communication				
• Records and explains reasoning and procedures clearly and completely, including appropriate terminology (for example, algebraic expression; constant term; linear relation)	unable to record and explain reasoning and procedures clearly and completely	records and explains reasoning and procedures with partial clarity; may be incomplete	records and explains reasoning and procedures clearly and completely	records and explains reasoning and procedures with precision and thoroughness

Name _____ Date _____

Master 1.3

Performance Assessment Rubric: Fund Raising

	Not Yet Adequate	Adequate	Proficient	Excellent
Conceptual understanding				
• Shows understanding of patterns and relations by: – formulating a linear relation to represent relationships (for example, time and distance) – representing a problem with a linear equation – comparing patterns represented in graphs – giving appropriate explanations and justifications	little understanding; unable to: – formulate a linear relation to represent relationships – represent a problem with a linear equation – compare patterns represented in graphs – give appropriate explanations and justifications	some understanding; partially able to: – formulate a linear relation to represent relationships – represent a problem with a linear equation – compare patterns represented in graphs – give appropriate explanations and justifications	shows understanding; appropriately able to: – formulate a linear relation to represent relationships – represent a problem with a linear equation – compare patterns represented in graphs – give appropriate explanations and justifications	shows depth of understanding; thoroughly and effectively: – formulates a linear relation to represent relationships – represents a problem with a linear equation – compares patterns represented in graphs – gives appropriate explanations and justifications
Procedural knowledge				
• Accurately: – creates tables of values from linear relations – graphs time and distance – evaluates algebraic expressions by substitution – solves linear equations – verifies solutions	major errors or omissions in: – creating tables of values from linear relations – graphing time and distance – evaluating algebraic equations by substitution – solving linear equations – verifying solutions	some minor errors or omissions in: – creating tables of values from linear relations – graphing time and distance – evaluating algebraic equations by substitution – solving linear equations – verifying solutions	few minor errors or omissions in: – creating tables of values from linear relations – graphing time and distance – evaluating algebraic equations by substitution – solving linear equations – verifying solutions	accurate and precise; no errors in: – creating tables of values from linear relations – graphing time and distance – evaluating algebraic equations by substitution – solving linear equations – verifying solutions
Problem-solving skills				
• Uses appropriate strategies to solve problems involving patterns and linear relations (for example, how far each might have cycled to raise equal amounts of money), and checks reasonableness of solutions	uses few effective strategies; does not provide a reasonable solution	uses some appropriate strategies, with partial success; may have difficulty checking or explaining the reasonableness of the solution	uses appropriate and successful strategies to provide and explain a reasonable solution	uses innovative and effective strategies to provide and explain a reasonable solution
Communication				
• Records and explains reasoning and procedures clearly and completely, including appropriate terminology	unable to record and explain reasoning and procedures clearly and completely	records and explains reasoning and procedures with partial clarity; may be incomplete	records and explains reasoning and procedures clearly and completely	records and explains reasoning and procedures with precision and thoroughness

Name _____ Date _____

Master 2.1

Unit Rubric: Integers

	Not Yet Adequate	Adequate	Proficient	Excellent
Conceptual understanding				
• Shows understanding by: – modelling integers – explaining and demonstrating that the sum of opposite integers is zero – illustrating the results of adding and subtracting integers on a number line	little understanding; may be unable to: – model integers – explain and demonstrate that the sum of opposite integers is zero – illustrate adding and subtracting on a number line	some understanding; partially able to: – model integers – explain and demonstrate that the sum of opposite integers is zero – illustrate adding and subtracting on a number line	shows understanding; able to appropriately: – model integers – explain and demonstrate that the sum of opposite integers is zero – illustrate adding and subtracting on a number line	shows depth of understanding; in various contexts, able to thoroughly: – model integers – explain and demonstrate that the sum of opposite integers is zero – illustrate adding and subtracting on a number line
Procedural knowledge				
• Accurately: – adds two integers, concretely, pictorially, and symbolically – subtracts two integers, concretely, pictorially, and symbolically	limited accuracy; major errors or omissions in: – adding integers and recording the process – subtracting integers and recording the process	partially accurate; frequent minor errors or omissions in: – adding integers and recording the process – subtracting integers and recording the process	generally accurate; few errors or omissions in: – adding integers and recording the process – subtracting integers and recording the process	accurate; rarely makes errors or omissions in: – adding integers and recording the process – subtracting integers and recording the process
Problem-solving skills				
• Solves given problems that involve the addition and subtraction of integers	may be unable to solve problems involving addition and subtraction of integers	with limited help, able to partially solve problems involving addition and subtraction of integers	successfully solves problems involving addition and subtraction of integers	consistently successful in solving problems involving addition and subtraction of integers; may be innovative
Communication				
• Records and explains reasoning and procedures clearly and completely, including appropriate terminology (for example, negative integer; positive integer; opposite integers)	unable to record and explain reasoning and procedures clearly and completely	records and explains reasoning and procedures with partial clarity; may be incomplete	records and explains reasoning and procedures clearly and completely	records and explains reasoning and procedures with precision and thoroughness

Name _____ Date _____

Master 2.3

Performance Assessment Rubric: What Time Is It?

	Not Yet Adequate	Adequate	Proficient	Excellent
Conceptual understanding				
• Shows understanding of integers by giving appropriate explanations and justifications of how integers were used to solve each problem	little understanding; unable to provide appropriate explanations and justifications	some understanding; provides partially appropriate explanations and justifications	shows understanding; provides appropriate explanations and justifications	depth of understanding; provides thorough and effective explanations and justifications
Procedural knowledge				
• Accurately adds and subtracts integers as required	major errors or omissions in adding and subtracting integers	some minor errors or omissions in adding and subtracting integers	few minor errors or omissions in adding and subtracting integers	accurate and precise; no errors in adding and subtracting integers
Problem-solving skills				
• Uses appropriate strategies to solve problems based on interpreting a time-zone map and checks reasonableness of solutions	uses few effective strategies; does not solve the problems successfully	uses some appropriate strategies, with partial success, to solve the problems	uses appropriate and successful strategies to solve the problems	uses innovative and effective strategies to successfully solve the problems
Communication				
• Records and explains reasoning and procedures clearly and completely, including appropriate terminology (for example, negative integer; positive integer; opposite integers)	unable to record and explain reasoning and procedures clearly and completely	records and explains reasoning and procedures with partial clarity; may be incomplete	records and explains reasoning and procedures clearly and completely	records and explains reasoning and procedures with precision and thoroughness

Name _____ Date _____

Master 3.1

Unit Rubric: Fractions, Decimals, and Percents

	Not Yet Adequate	Adequate	Proficient	Excellent
Conceptual understanding				
• Shows understanding by demonstrating and explaining: – operations with decimal numbers (including reasonableness of solutions) – estimation strategies – relationships between fractions and decimals – strategies for comparing and ordering fractions, decimals, and mixed numbers	little understanding; may be unable to demonstrate or explain: – operations with decimal numbers – estimation strategies – relationships between fractions and decimals – strategies for comparing and ordering fractions, decimals, and mixed numbers	some understanding; partially able to demonstrate or explain: – operations with decimal numbers – estimation strategies – relationships between fractions and decimals – strategies for comparing and ordering fractions, decimals, and mixed numbers	shows understanding; able to appropriately demonstrate or explain: – operations with decimal numbers – estimation strategies – relationships between fractions and decimals – strategies for comparing and ordering fractions, decimals, and mixed numbers	shows depth of understanding; in various contexts, able to thoroughly demonstrate or explain: – operations with decimal numbers – estimation strategies – relationships between fractions and decimals – strategies for comparing and ordering fractions, decimals, and mixed numbers
Procedural knowledge				
• Accurately: – converts between decimals and fractions – distinguishes between repeating and terminating decimals – compares and orders fractions, decimals, and mixed numbers – adds, subtracts, multiplies, and divides decimals to solve problems – expresses percent as a decimal or fraction	limited accuracy; major errors or omissions in: – converting between decimals and fractions – distinguishing between repeating and terminating decimals – comparing and ordering fractions, decimals, and mixed numbers – adding, subtracting decimals – multiplying and dividing decimals – expressing percent as a decimal or fraction	partially accurate; frequent minor errors or omissions in: – converting between decimals and fractions – distinguishing between repeating and terminating decimals – comparing and ordering fractions, decimals, and mixed numbers – adding, subtracting decimals – multiplying and dividing decimals – expressing percent as a decimal or fraction	generally accurate; few errors or omissions in: – converting between decimals and fractions – distinguishing between repeating and terminating decimals – comparing and ordering fractions, decimals, and mixed numbers – adding, subtracting decimals – multiplying and dividing decimals – expressing percent as a decimal or fraction	accurate; no errors or omissions in: – converting between decimals and fractions – distinguishing between repeating and terminating decimals – comparing and ordering fractions, decimals, and mixed numbers – adding, subtracting decimals – multiplying and dividing decimals – expressing percent as a decimal or fraction
Problem-solving skills				
• Solves problems that involve fractions, decimals, and percents	may be unable to solve problems; strategies are inappropriate	with limited help, able to partially solve problems using some appropriate strategies	successfully solves problems using appropriate strategies	consistently successful in solving problems using effective and often innovative strategies
Communication				
• Records and explains reasoning and procedures clearly and completely, including appropriate terminology (for example, terminating/repeating decimal)	unable to record and explain reasoning and procedures clearly and completely	records and explains reasoning and procedures with partial clarity; may be incomplete	records and explains reasoning and procedures clearly and completely	records and explains reasoning and procedures with precision and thoroughness

Name _____ Date _____

Master 3.3

Performance Assessment Rubric: Shopping with Coupons

	Not Yet Adequate	Adequate	Proficient	Excellent
Conceptual understanding				
• Shows understanding of decimals and percent by applying and explaining decimals and percent in the context of shopping (money amounts, discounts, taxes)	little understanding; unable to apply concepts or provide appropriate explanations and justifications	some understanding; applies some concepts and gives partially appropriate explanations and justifications	shows understanding; applies concepts, and provides appropriate explanations and justifications	depth of understanding; applies concepts effectively and provides thorough explanations and justifications
Procedural knowledge				
• Accurately – adds and subtracts decimals – finds percents – estimates to find approximate answer (for example, cost including taxes) – compares decimals (money amounts)	major errors or omissions in: – adding and subtracting decimals – finding percents – estimating to find approximate answer (for example, cost including taxes) – comparing decimals (money amounts)	some minor errors or omissions in: – adding and subtracting decimals – finding percents – estimating to find approximate answer (for example, cost including taxes) – comparing decimals (money amounts)	few minor errors or omissions in: – adding and subtracting decimals – finding percents – estimating to find approximate answer (for example, cost including taxes) – comparing decimals (money amounts)	accurate and precise; no errors in: – adding and subtracting decimals – finding percents – estimating to find approximate answer (for example, cost including taxes) – comparing decimals (money amounts)
Problem-solving skills				
• Uses appropriate strategies to solve problems involving decimals (money amounts) and percent (discounts and taxes), and checks solutions	uses few effective strategies; does not solve the problems successfully	uses some appropriate strategies, with partial success, to solve the problems and check solutions	uses appropriate and successful strategies to solve the problems and check solutions	uses innovative and effective strategies to successfully solve the problems and check solutions
Communication				
• Records and explains reasoning and procedures clearly and completely, including appropriate terminology as required	unable to record and explain reasoning and procedures clearly and completely	records and explains reasoning and procedures with partial clarity; may be incomplete	records and explains reasoning and procedures clearly and completely	records and explains reasoning and procedures with precision and thoroughness

Name _____ Date _____

Master 4.1

Unit Rubric: Circles and Area

	Not Yet Adequate	Adequate	Proficient	Excellent
Conceptual understanding				
• Shows understanding of circles by illustrating and explaining: – relationships among the radius, diameter, and circumference – relation of circumference to pi – sum of the central angles (360°) – how the area of a rectangle can be used to determine the area of triangle or a parallelogram – generalizing to create formulas for area of a triangle or parallelogram – how to estimate the area of a circle	little understanding; may be unable to illustrate or explain: – relationships among radius, diameter, and circumference – relation of circumference to pi – sum of the central angles (360°) – how the area of a rectangle can be used to determine the area of triangle or a parallelogram – generalizing to create formulas for area of a triangle or parallelogram – how to estimate the area of a circle	some understanding; partially able to illustrate or explain: – relationships among radius, diameter, and circumference – relation of circumference to pi – sum of the central angles (360°) – how the area of a rectangle can be used to determine the area of triangle or a parallelogram – generalizing to create formulas for area of a triangle or parallelogram – how to estimate the area of a circle	shows understanding; able to appropriately illustrate or explain: – relationships among radius, diameter, and circumference – relation of circumference to pi – sum of the central angles (360°) – how the area of a rectangle can be used to determine the area of triangle or a parallelogram – generalizing to create formulas for area of a triangle or parallelogram – how to estimate the area of a circle	shows depth of understanding; in various contexts, able to thoroughly illustrate or explain: – relationships among radius, diameter, and circumference – relation of circumference to pi – sum of the central angles (360°) – how the area of a rectangle can be used to determine the area of triangle or a parallelogram – generalizing to create formulas for area of a triangle or parallelogram – how to estimate the area of a circle
Procedural knowledge				
• Accurately: – determines the sum of central angles of a circle – constructs circles – applies a formula for determining the area of triangles, parallelograms, and circles – draws, labels, and interprets circle graphs	limited accuracy; major errors or omissions in: – determining the sum of central angles of a circle – constructing circles – determining the area of triangles, parallelograms, circles – drawing, labelling, and interpreting circle graphs	partially accurate; frequent minor errors or omissions in: – determining the sum of central angles of a circle – constructing circles – determining the area of triangles, parallelograms, circles – drawing, labelling, and interpreting circle graphs	generally accurate; few errors or omissions in: – determining the sum of central angles of a circle – constructing circles – determining the area of triangles, parallelograms, circles – drawing, labelling, and interpreting circle graphs	accurate; no errors or omissions in: – determining the sum of central angles of a circle – constructing circles – determining the area of triangles, parallelograms, circles – drawing, labelling, and interpreting circle graphs
Problem-solving skills				
• Uses appropriate strategies to solves problems involving circles and area	may be unable to use appropriate strategies to solve problems	uses some appropriate strategies with partial success to solve problems	uses appropriate strategies to successfully solve problems	consistently uses effective, and often innovative, strategies to solve problems
Communication				
• Records and explains reasoning and procedures clearly and completely, including appropriate terminology (for example, radius, diameter, circumference, base, central angle)	unable to record and explain reasoning and procedures clearly and completely	records and explains reasoning and procedures with partial clarity; may be incomplete	records and explains reasoning and procedures clearly and completely	records and explains reasoning and procedures with precision and thoroughness

Name _____ Date _____

Master 4.3

Performance Assessment Rubric: Designing a Water Park

	Not Yet Adequate	Adequate	Proficient	Excellent
Conceptual understanding				
• Shows understanding by applying the concepts of circles and area	little understanding; unable to apply required concepts or provide appropriate explanations	some understanding; applies some required concepts and provides partially appropriate explanations	shows understanding; applies required concepts and provides appropriate explanations	depth of understanding; effectively applies concepts; provides thorough explanations with some depth
Procedural knowledge				
• Accurately: – constructs a diagram of the design on grid paper – uses the correct shapes for each feature of the park – relates perimeter to area – relates diameter to area – determines the area of each shape included in the plan	major errors or omissions in: – constructing a diagram on grid paper – using the correct shapes – relating perimeter and area; diameter and area – determining the area of each shape	some minor errors or omissions in: – constructing a diagram on grid paper – using the correct shapes – relating perimeter and area; diameter and area – determining the area of each shape	few minor errors or omissions in: – constructing a diagram on grid paper – using the correct shapes – relating perimeter and area; diameter and area – determining the area of each shape	accurate and precise; no errors in: – constructing a diagram on grid paper – using the correct shapes – relating perimeter and area; diameter and area – determining the area of each shape
Problem-solving skills				
• Uses appropriate strategies to: – create the design to specifications given – determine the area that will get wet	uses few effective strategies; does not successfully: – create the design to specifications given – determine the area that will get wet	uses some appropriate strategies, with partial success, to: – create the design to specifications given – determine the area that will get wet	uses appropriate and successful strategies to: – create the design to specifications given – determine the area that will get wet	uses innovative and effective strategies to successfully: – create the design to specifications given – determine the area that will get wet
Communication				
• Records and explains reasoning and procedures clearly and completely, including appropriate terminology	unable to record and explain reasoning and procedures clearly and completely	records and explains reasoning and procedures with partial clarity; may be incomplete	records and explains reasoning and procedures clearly and completely	records and explains reasoning and procedures with precision and thoroughness

Name _____ Date _____

Master 5.1

Unit Rubric: Operations with Fractions

	Not Yet Adequate	Adequate	Proficient	Excellent
Conceptual understanding				
• Shows understanding by modelling and explaining addition and subtraction of fractions and mixed numbers using concrete representations, and recording results symbolically	little understanding; may be unable to model or explain addition and subtraction with fractions and mixed numbers	some understanding; partially able to model or explain addition and subtraction with fractions and mixed numbers	shows understanding; able to appropriately model or explain addition and subtraction with fractions and mixed numbers	shows depth of understanding; in various contexts, able to model or explain addition and subtraction with fractions and mixed numbers
Procedural knowledge				
• For positive fractions and mixed numbers with like and unlike denominators: – adds fractions – subtracts fractions – adds mixed numbers – subtracts mixed numbers – determines common denominator – simplifies fractions and mixed numbers	limited accuracy; major errors or omissions in: – adding fractions – subtracting fractions – adding mixed numbers – subtracting mixed numbers – simplifying fractions and mixed numbers	partially accurate; frequent minor errors or omissions in: – adding fractions – subtracting fractions – adding mixed numbers – subtracting mixed numbers – simplifying fractions and mixed numbers	generally accurate; few errors or omissions in: – adding fractions – subtracting fractions – adding mixed numbers – subtracting mixed numbers – simplifying fractions and mixed numbers	accurate; no errors or omissions in: – adding fractions – subtracting fractions – adding mixed numbers – subtracting mixed numbers – simplifying fractions and mixed numbers
Problem-solving skills				
• Solves problems that involve addition and subtraction with fractions and mixed numbers	may be unable to solve problems; strategies are inappropriate	with limited help, able to partially solve problems using some appropriate strategies	successfully solves problems using appropriate strategies	consistently successful in solving problems using effective and often innovative strategies
Communication				
• Records and explains reasoning and procedures clearly and completely, including appropriate terminology (for example, simplest form, related denominators)	unable to record and explain reasoning and procedures clearly and completely	records and explains reasoning and procedures with partial clarity; may be incomplete	records and explains reasoning and procedures clearly and completely	records and explains reasoning and procedures with precision and thoroughness

Name _____ Date _____

Master 5.3

Performance Assessment Rubric: Publishing a Book

	Not Yet Adequate	Adequate	Proficient	Excellent
Conceptual understanding				
• Shows understanding of fractions by applying and explaining operations in the context of advertising space in a book	little understanding; unable to apply concepts or provide appropriate explanations and justifications	some understanding; applies some concepts and gives partially appropriate explanations and justifications	shows understanding; applies concepts, and provides appropriate explanations and justifications	depth of understanding; applies concepts effectively and provides thorough explanations and justifications
Procedural knowledge				
• Accurately: – adds and subtracts fractions and mixed numbers – simplifies fractions and mixed numbers	major errors or omissions in: – adding and subtracting fractions – adding and subtracting mixed numbers – simplifying fractions and mixed numbers	some minor errors or omissions in: – adding and subtracting fractions – adding and subtracting mixed numbers – simplifying fractions and mixed numbers	few minor errors or omissions in: – adding and subtracting fractions – adding and subtracting mixed numbers – simplifying fractions and mixed numbers	accurate and precise; no errors in: – adding and subtracting fractions – adding and subtracting mixed numbers – simplifying fractions and mixed numbers
Problem-solving skills				
• Uses appropriate strategies to determine: – fewest pages needed to display the advertisements – which students received the prizes – how much more the third student needed to sell (for first place; for second place)	uses few effective strategies; does not solve the problems successfully	uses some appropriate strategies, with partial success, to solve the problems and check solutions	uses appropriate and successful strategies to solve the problems and check solutions	uses innovative and effective strategies to successfully solve the problems and check solutions
Communication				
• Records and explains reasoning and procedures clearly and completely, including appropriate terminology as required (for example, simplest form, common denominator)	unable to record and explain reasoning and procedures clearly and completely	records and explains reasoning and procedures with partial clarity; may be incomplete	records and explains reasoning and procedures clearly and completely	records and explains reasoning and procedures with precision and thoroughness

Name _____ Date _____

Master 6.1

Unit Rubric: Equations

	Not Yet Adequate	Adequate	Proficient	Excellent
Conceptual understanding				
• Shows understanding by demonstrating and explaining: – preservation of equality – the difference between an expression and an equation – choice of method to solve an equation – verification of solution – how to represent and solve a problem with a linear equation	little understanding; may be unable to demonstrate or explain: – preservation of equality – the difference between an expression and an equation – choice of method to solve an equation – verification of solution – how to represent and solve a problem with a linear equation	some understanding; partially able to demonstrate and explain: – preservation of equality – the difference between an expression and an equation – choice of method to solve an equation – verification of solution – how to represent and solve a problem with a linear equation	shows understanding; able to appropriately demonstrate and explain: – preservation of equality – the difference between an expression and an equation – choice of method to solve an equation – verification of solution – how to represent and solve a problem with a linear equation	shows depth of understanding; in various contexts, able to thoroughly demonstrate and explain: – preservation of equality – the difference between an expression and an equation – choice of method to solve an equation – verification of solution – how to represent and solve a problem with a linear equation
Procedural knowledge				
• Accurately: – applies preservation of equality – represents a problem with a linear equation – solves equations	limited accuracy; major errors or omissions in: – applying preservation of equality – representing a problem with a linear equation – solving equations	partially accurate; frequent minor errors or omissions in: – applying preservation of equality – representing a problem with a linear equation – solving equations	generally accurate; few errors or omissions in: – applying preservation of equality – representing a problem with a linear equation – solving equations	accurate; no errors or omissions in: – applying preservation of equality – representing a problem with a linear equation – solving equations
Problem-solving skills				
• Models and solves problems using linear equations	may be unable to model or solve problems	with limited help, able to partially solve problems	successfully solves problems	consistent and often innovative in solving problems
Communication				
• Records and explains reasoning and procedures clearly and completely, including appropriate terminology as required	unable to record and explain reasoning and procedures clearly and completely	records and explains reasoning and procedures with partial clarity; may be incomplete	records and explains reasoning and procedures clearly and completely	records and explains reasoning and procedures with precision and thoroughness

Name _____ Date _____

Master 6.3

Performance Assessment Rubric: Choosing a Digital Music Club

	Not Yet Adequate	Adequate	Proficient	Excellent
Conceptual understanding				
• Shows understanding of equations by: – representing problems with linear equations – justifying choice of methods – verifying solutions – providing reasonable explanations for solutions and conclusions	little understanding; unable to: – represent problems with linear equations – justify choice of methods – verify solutions – provide reasonable explanations for solutions and conclusions	some understanding; partially able to: – represent problems with linear equations – justify choice of methods – verify solutions – provide reasonable explanations for solutions and conclusions	shows understanding; appropriately: – represents problems with linear equations – justifies choice of methods – verifies solutions – provides reasonable explanations for solutions and conclusions	shows depth of understanding; thoroughly and effectively: – represents problems with linear equations – justifies choice of methods – verifies solutions – provides reasonable explanations for solutions and conclusions
Procedural knowledge				
• Accurately: – completes the table – evaluates expressions (to determine the cost of 10 additional songs for each club) – solves linear equations	major errors or omissions in: – completing the table – evaluating expressions – solving linear equations	some minor errors or omissions in: – completing the table – evaluating expressions – solving linear equations	few minor errors or omissions in: – completing the table – evaluating expressions – solving linear equations	accurate and precise; no errors in: – completing the table – evaluating expressions – solving linear equations
Problem-solving skills				
• Uses expressions and equations to solve problems involving linear relationships and explains solutions	uses few effective strategies; does not provide a reasonable solution	uses some appropriate strategies, with partial success; may have difficulty checking or explaining the solution	uses appropriate and successful strategies to provide and explain a reasonable solution for most parts of the problem	uses effective and sometimes innovative strategies to provide and explain a reasonable solution for all parts of the problem (may be minor flaws)
Communication				
• Records and explains reasoning and procedures clearly and completely, including appropriate terminology	unable to record and explain reasoning and procedures clearly and completely	records and explains reasoning and procedures with partial clarity; may be incomplete	records and explains reasoning and procedures clearly and completely	records and explains reasoning and procedures with precision and thoroughness

Name _____ Date _____

Master 7.1

Unit Rubric: Data Analysis

	Not Yet Adequate	Adequate	Proficient	Excellent
Conceptual understanding				
• Shows understanding by explaining and demonstrating: – measures of central tendency and range – appropriate choice of mean, median, or mode for a given situation – effect of outliers on measures of central tendency – examples of independent events – the difference between theoretical and experimental probability	little understanding; may be unable to explain or demonstrate: – central tendency and range – choice of mean, median, or mode – effect of outliers – examples of independent events – the difference between theoretical and experimental probability	some understanding; partially able to explain and demonstrate: – central tendency and range – choice of mean, median, or mode – effect of outliers – examples of independent events – the difference between theoretical and experimental probability	shows understanding; able to appropriately explain and demonstrate: – central tendency and range – choice of mean, median, or mode – effect of outliers – examples of independent events – the difference between theoretical and experimental probability	shows depth of understanding; in various contexts, able to thoroughly explain and demonstrate: – central tendency and range – choice of mean, median, or mode – effect of outliers – examples of independent events – the difference between theoretical and experimental probability
Procedural knowledge				
• Accurately: – finds the mean, median, mode, and range – expresses probabilities as ratios, fractions, and percents – identifies all possible outcomes for each of two independent events (for example, using tree diagram or other graphic organizer)	limited accuracy; major errors or omissions in: – finding the mean, median, mode, and range – expressing probabilities as ratios, fractions, and percents – identifying all possible outcomes	partially accurate; frequent minor errors or omissions in: – finding the mean, median, mode, and range – expressing probabilities as ratios, fractions, and percents – identifying all possible outcomes	generally accurate; few errors or omissions in: – finding the mean, median, mode, and range – expressing probabilities as ratios, fractions, and percents – identifying all possible outcomes	accurate; rarely makes errors or omissions in: – finding the mean, median, mode, and range – expressing probabilities as ratios, fractions, and percents – identifying all possible outcomes
Problem-solving skills				
• Solves given problems involving central tendency • Conducts probability experiments to compare theoretical and experimental probability	may be unable to use appropriate strategies to solve problems involving: – central tendency – comparisons of experimental and theoretical probability	uses some appropriate strategies with partial success to solve problems involving: – central tendency – comparisons of experimental and theoretical probability	uses appropriate strategies to successfully solve problems involving: – central tendency – comparisons of experimental and theoretical probability	consistently uses effective, and often innovative, strategies to solve problems involving: – central tendency – comparisons of experimental and theoretical probability
Communication				
• Records and explains reasoning and procedures clearly and completely, including appropriate terminology (for example, mean, median, mode, outlier, independent events)	unable to record and explain reasoning and procedures clearly and completely	records and explains reasoning and procedures with partial clarity; may be incomplete	records and explains reasoning and procedures clearly and completely	records and explains reasoning and procedures with precision and thoroughness

Name _____ Date _____

Master 7.3

Performance Assessment Rubric: Board Games

	Not Yet Adequate	Adequate	Proficient	Excellent
Conceptual understanding				
• Shows understanding of probability by giving appropriate explanations for: – why a table is used rather than a tree diagram (Part 1) – what the *mode* of the sums shows (Part 2) – how experimental and theoretical probability compare (Part 3) – who is mostly to win (Part 4) – why 7 is a "lucky" number (Part 4)	little understanding; unable to provide appropriate explanations for: – why a table is used rather than a tree diagram (Part 1) – what the *mode* of the sums shows (Part 2) – how experimental and theoretical probability compare (Part 3) – who is mostly to win (Part 4) – why 7 is a "lucky" number (Part 4)	some understanding; provides partially appropriate explanations for: – why a table is used rather than a tree diagram (Part 1) – what the *mode* of the sums shows (Part 2) – how experimental and theoretical probability compare (Part 3) – who is mostly to win (Part 4) – why 7 is a "lucky" number (Part 4)	shows understanding; provides appropriate explanations for: – why a table is used rather than a tree diagram (Part 1) – what the *mode* of the sums shows (Part 2) – how experimental and theoretical probability compare (Part 3) – who is mostly to win (Part 4) – why 7 is a "lucky" number (Part 4)	depth of understanding; provides thorough and effective explanations for: – why a table is used rather than a tree diagram (Part 1) – what the *mode* of the sums shows (Part 2) – how experimental and theoretical probability compare (Part 3) – who is mostly to win (Part 4) – why 7 is a "lucky" number (Part 4)
Procedural knowledge				
• Accurately: **Part 1** – completes the table – determines all possible outcomes – determines the theoretical probability **Part 2** – calculates experimental probability for 100 and 400 rolls – summarizes results in a table	major errors or omissions in: – completing the table – determining all possible outcomes – determining theoretical probability – calculating experimental probability – summarizing results in a table	some minor errors or omissions in: – completing the table – determining all possible outcomes – determining theoretical probability – calculating experimental probability – summarizing results in a table	few minor errors or omissions in: – completing the table – determining all possible outcomes – determining theoretical probability – calculating experimental probability – summarizing results in a table	accurate and precise; no errors in: – completing the table – determining all possible outcomes – determining theoretical probability – calculating experimental probability – summarizing results in a table
Problem-solving skills				
• Uses appropriate strategies to determine which player is most likely to win the board game in Part 4	uses few effective strategies; does not solve the problems successfully	uses some appropriate strategies, with partial success, to solve the problems	uses appropriate and successful strategies to solve the problems	uses innovative and effective strategies to successfully solve the problems
Communication				
• Records and explains reasoning and procedures clearly and completely, including appropriate terminology	unable to record and explain reasoning and procedures clearly and completely	records and explains reasoning and procedures with partial clarity; may be incomplete	records and explains reasoning and procedures clearly and completely	records and explains reasoning and procedures with precision and thoroughness

Name _____ Date _____

Master 8.1

Unit Rubric: Geometry

	Not Yet Adequate	Adequate	Proficient	Excellent
Conceptual understanding				
• Shows understanding by demonstrating, explaining, and verifying: – parallel and perpendicular line segments – perpendicular and angle bisectors – how to locate and plot points on a Cartesian plane – transformations (translations, rotations, or reflections) of a shape on a Cartesian plane	little understanding; may be unable to demonstrate, explain, or verify: – parallel and perpendicular line segments – perpendicular and angle bisectors – how to locate and plot points on a Cartesian plane – transformations (translations, rotations, or reflections) of a shape on a Cartesian plane	some understanding; partially able to demonstrate, explain, and verify: – parallel and perpendicular line segments – perpendicular and angle bisectors – how to locate and plot points on a Cartesian plane – transformations (translations, rotations, or reflections) of a shape on a Cartesian plane	shows understanding; able to appropriately demonstrate, explain, and verify: – parallel and perpendicular line segments – perpendicular and angle bisectors – how to locate and plot points on a Cartesian plane – transformations (translations, rotations, or reflections) of a shape on a Cartesian plane	shows depth of understanding; able to thoroughly demonstrate, explain, and verify: – parallel and perpendicular line segments – perpendicular and angle bisectors – how to locate and plot points on a Cartesian plane – transformations (translations, rotations, or reflections) of a shape on a Cartesian plane
Procedural knowledge				
• Accurately: – identifies line segments as perpendicular or parallel – constructs perpendicular and parallel line segments – constructs perpendicular and angle bisectors – labels the axes of a four-quadrant grid and identifies the origin – identifies and plots points on a grid – graphs transformations on a grid	limited accuracy; major errors or omissions in: – identifying line segments as perpendicular/ parallel – constructing perpendicular and parallel line segments – constructing perpendicular and angle bisectors – labelling the axes of a four-quadrant grid; identifying the origin – identifying; plotting points on a grid – graphing transformations	partially accurate; frequent minor errors or omissions in: – identifying line segments as perpendicular/ parallel – constructing perpendicular and parallel line segments – constructing perpendicular and angle bisectors – labelling the axes of a four-quadrant grid; identifying the origin – identifying; plotting points on a grid – graphing transformations	generally accurate; few errors or omissions in: – identifying line segments as perpendicular/ parallel – constructing perpendicular and parallel line segments – constructing perpendicular and angle bisectors – labelling the axes of a four-quadrant grid and identifying the origin – identifying; plotting points on a grid – graphing transformations	accurate; no errors or omissions in: – identifying line segments as perpendicular/ parallel – constructing perpendicular and parallel line segments – constructing perpendicular and angle bisectors – labelling the axes of a four-quadrant grid and identifying the origin – identifying and plotting points on a grid – graphing transformations
Problem-solving skills				
• Uses appropriate strategies to perform transformations and consecutive transformations	may be unable to use appropriate strategies to perform transformations	uses some appropriate strategies with partial success to perform transformations	uses appropriate strategies to successfully perform transformations	consistently uses effective, and sometimes innovative, strategies to perform transformations
Communication				
• Records and explains reasoning and procedures clearly and completely, including appropriate terminology (for example, parallel; perpendicular, angle bisector, quadrants, *x*-axis, *y*-axis)	unable to record and explain reasoning and procedures clearly and completely	records and explains reasoning and procedures with partial clarity; may be incomplete	records and explains reasoning and procedures clearly and completely	records and explains reasoning and procedures with precision and thoroughness

Name _____ Date _____

Master 8.3

Performance Assessment Rubric: Design a Cover

	Not Yet Adequate	Adequate	Proficient	Excellent
Conceptual understanding				
• Shows understanding of geometric concepts by: – explaining the design and how it relates to unit concepts – describing how transformations were used to create a design	little understanding; unable to: – explain the design in terms of unit concepts – describe how transformations were used	some understanding; partially able to: – explain the design in terms of unit concepts – describe how transformations were used	shows understanding; able to appropriately: – explain the design in terms of unit concepts – describe how transformations were used	shows depth of understanding; in various contexts, able to effectively: – explain the design in terms of unit concepts – describe how transformations were used
Procedural knowledge				
• Accurately: – constructs perpendicular and parallel line segments – draws chosen figure on a coordinate grid – records coordinates of the original shape and two of the images	limited accuracy; major errors or omissions in: – constructing perpendicular and parallel line segments – drawing chosen figure on a coordinate grid – recording coordinates of the original shape and two of the images	partially accurate; some minor errors or omissions in: – constructing perpendicular and parallel line segments – drawing chosen figure on a coordinate grid – recording coordinates of the original shape and two of the images	generally accurate; few minor errors or omissions in: – constructing perpendicular and parallel line segments – drawing chosen figure on a coordinate grid – recording coordinates of the original shape and two of the images	accurate and precise; no errors or omissions in: – constructing perpendicular and parallel line segments – drawing chosen figure on a coordinate grid – recording coordinates of the original shape and two of the images
Problem-solving skills				
• Uses appropriate strategies to: – create front cover design to specifications given – create back cover design using transformations	uses few effective strategies; does not successfully: – create the front cover design to specifications given – create the back cover design using transformations	uses some appropriate strategies, with partial success, to: – create the front cover design to specifications given – create the back cover design using transformations	uses appropriate and successful strategies to: – create the front cover design to specifications given – create the back cover design using transformations	uses innovative and effective strategies to successfully: – create the front cover design to specifications given – create the back cover design using transformations
Communication				
• Records and explains reasoning and procedures clearly and completely, including appropriate terminology	unable to record and explain reasoning and procedures clearly and completely	records and explains reasoning and procedures with partial clarity; may be incomplete	records and explains reasoning and procedures clearly and completely	records and explains reasoning and procedures with precision and thoroughness