Proficiency Scale – Algebra I

Unit 1: Solving Linear Equations

Power Standard: HSA. CED.A.1

Create equations in one variable and use them to solve problems. Include equations arising from linear functions.

Score	Textbook Reference Sections	Criteria	Evidence **Below are suggested assignments based on the school issued textbook.* **teachers may alter these using their own materials as long as everyone teaching the course uses similar materials and the questions reflect the same concepts as the suggested problems*
4.0 Advanced	*Envision Textbook* *Section 1.4* *Supplemental for additional work problems*	o I can model linear expressions and equations using variables and solve problems using appropriate units o I can determine the most efficient method and use it to rewrite and/or solve linear equations **(HSA. Q.A.1 & HSA. CED. A. 4)**	*Envision Textbook* *Models* *Pg 28 #28 -32 + supplemental worksheet*
3.0 Proficient	*Envision Textbook* *Section 1.2 & 1.3*	o I can create equations in one variable and use them to solve problems o I can construct a viable (good) argument to justify (explain) a solution method **(HSA.CED. A. 1 & HSA. REI. B.3 & HSA.REI. A.1)**	*Envision Textbook* *Creating Equations* *pg 16 #38-42* *Pg 22 #41-47*
2.0 Developing	*Envision Textbook* *Section 1.4*	o I can solve linear equations with coefficients represented by letters o I can explain each step in solving simple equations as following from the equality of numbers from previous steps **(HSA. REI. B.3 and HSA. REI. A. 1)**	*Envision Textbook* *Coefficients as letters* *Pg28 #13-27*

1.0 **Beginning**	*Envision Textbook* *Section 1.1 & 1.2 & 1.3*	o I can solve linear equations by o Gathering variables on both sides of equation o Combining like terms o Using the distributive property o Positive and negative terms o I can find solutions that are real numbers, no solution, and infinite many solutions o I can write answers in exact form, fractions or decimals when appropriate **(HSN. RN. B3, HSA. REI. B.3)**	*<u>Envision Textbook</u>* *Types of numbers* *Pg 9 #16-33* *Solving Linear* *Pg 16 #16-37* *Solving with Variables on both sides* *Pg 22 #16-40*

Proficiency Scale – Algebra I
Unit 2: Solving Linear Inequalities

Power Standard: HSA. CED.A.1
Create inequalities in one variable and use them to solve problems. Include equations arising from linear functions.

Level	Textbook Reference Sections	Criteria	Score on Level Up
4.0	*Envision Textbook* *Section 1.5, 1.6, 1.7*	○ I can model linear inequalities using variables and solve problems using appropriate units ○ I can determine the most efficient method and use it to rewrite and/or solve linear inequalities **(HSA. Q.A.1 & HSA. CED. A. 4)**	
3.0	*Envision Textbook* *Section 1.7*	○ I can write and solve absolute value equations ○ I can write and solve absolute value inequalities **(HSA.CED. A. 1)**	
2.0	*Envision Textbook* *Section 1.6*	○ I can solve compound one-variable inequalities using ○ Addition, subtraction, multiplication, and division ○ Including multi-step inequalities ○ I can graph solutions in one-dimension ○ And vs or **(HSA. REI. B.3 and HSA. CED. A. 3)**	
1.0	*Envision Textbook* *Section 1.5*	○ I can solve linear inequalities using ○ Addition, subtraction, multiplication, and division ○ Including multi-step inequalities ○ I can graph solutions in one-dimension ○ Open vs closed circle ○ Shade which way ○ I can write answers in exact form, fractions or decimals when appropriate **(HSA. CED. A. 3, HSA. REI. B.3)**	

Proficiency Scale – Algebra I

Unit 3: Linear Functions

Power Standard: HSF. IF. A.2

Use function notation, evaluate functions for inputs in their domain, and interpret statements that use function notation in terms of a context.

Score	Textbook Reference Sections	Criteria	Evidence **Below are suggested assignments based on the school issued textbook.* **teachers may alter these using their own materials as long as everyone teaching the course uses similar materials and the questions reflect the same concepts as the suggested problems*
4.0 Advanced	*Envision Textbook* *Section 3.4*	o I can recognize that sequences are functions o I can write arithmetic sequences both recursively and with an explicit formula o I can create equations in two variables to present relationships between quantities **(HSF. IF.A.3, HSF. BF. A.2, HSA. CED. A. 2)**	*Envision Textbook* *Sequences* *pg116 #17-42* *Word Problems* *pg117 #43-45* *pg108 #31* *pg101 #29-31* *pg94 #24-26*
3.0 Proficient	*Envision Textbook* *Section 3.3*	o I can transform linear functions given in function notation o I can present functions with continuous and discrete domains using graphs and tables of numbers **(HSF. IF.B.5 & HSF. IF.A.2)**	*Envision Textbook* *Pg107 #15-30*

2.0 **Developing**	*Envision Textbook* *Section 3.2*	**o** I can use function notation to evaluate and interpret functions **(HSF.IF.A.1 & HSF. IF.A.2)**	*Envision Textbook* *Function notation* *pg100 #13-18 + supplemental*
1.0 **Beginning**	*Envision Textbook* *Section 3.1*	**o** I can determine whether relations are functions **o** I can find the domain and range of a function **(HSF.IF.A.1)**	*Envision Textbook* *Domain, Range, Function* *Pg93 #13 - 21*

Proficiency Scale – Algebra I

Unit 4: Linear Equations

Power Standard: HSA. CED.A.2

Create equations in two or more variables to present relationships between quantities; graph equations on coordinate axes with labels and scales.

Score	Textbook Reference Sections	Criteria	Evidence **Below are suggested assignments based on the school issued textbook.* **teachers may alter these using their own materials as long as everyone teaching the course uses similar materials and the questions reflect the same concepts as the suggested problems*
4.0 Advanced	*Envision Textbook* *Section 5.1 & 5.2*	o I can graph an absolute value based on an equation o I can find domain and range of absolute value equations o I can graph piece wise functions by relating linear equations to absolute value equations **(HSF.IF.B.4 & HSF.IF.C.7. B)**	*Envision Textbook* *Absolute value* *pg188 #16-28* *Piece-wise* *pg195 #16-22*
3.0 Proficient	*Envision Textbook* *Section 2.4*	o I can apply knowledge of slope and linear equations to write equations for: o Parallel lines o Perpendicular lines **(HSA.CED. A.2)**	*Envision Textbook* *pg81 #15-31*
2.0 Developing	*Envision Textbook* *Section 2.3*	○ I can write linear equations in standard form ○ I can graph linear equations in standard form **(HSA.CED. A.2 & HSS. ID.C.7)**	*Envision Textbook* *pg73 #15-43*

1.0 **Beginning**	*Envision Textbook* *Section 2.1 & 2.2*	**o** I can write linear equations in **o** Slope-intercept form o Point-slope form o I can graph a linear equation given in o Slope-intercept form o Point-slope form **(HSA.CED. A.2 & HSS. ID.C.7 & HSF.LE.A.2)**	*Envision Textbook* *Slope-intercept* *pg61 #18-37* *Point-slope* *pg67 #14-38*

Proficiency Scale – Algebra I

Unit 5: Systems of Linear Equations and Inequalities

Power Standard: HSA. REI.C.6

Solve systems of linear equations exactly and approximately (e.g. with graphs) focusing on pairs of linear equations in two variables

Score	Textbook Reference Sections	Criteria	Evidence **Below are suggested assignments based on the school issued textbook.* **teachers may alter these using their own materials as long as everyone teaching the course uses similar materials and the questions reflect the same concepts as the suggested problems*
4.0 Advanced	*Envision Textbook* *Section 4.2, 4.3, 4.4,4.5*	**o** I can interpret solutions as viable or nonviable options in modeling contexts **(HSA.CED.A.3 & HSA.REI.C.5)**	*Envision Textbook* *Systems of Equations* *pg155 #30-34* *pg162 #26,27,32,34,36* *Systems of Inequalities* *pg176 #32-35*
3.0 Proficient	*Envision Textbook* *Section 4.2&4.3*	○ I can solve a system of two linear equations in two variables using the following methods: ○ Substitution ○ Elimination **o** I can identify special types of linear systems that result in no solution or infinity many solutions **(HSA.REI. C.6)**	*Envision Textbook* *Substitution* *pg155 #17-29* *Elimination* *pg162 #15-25,28-31*
2.0 Developing	*Envision Textbook* *Section 4.4*	**o** I can graph a linear inequality in two variables including: ○ Appropriately shading the solutions ○ Indicating whether to use a solid or dashed line	*Envision Textbook* *Single Equation* *pg168 #16-27*

		○ I can graph a system of linear inequalities in two variables ○ Appropriately shading the solutions ○ Indicating whether to use a solid or dashed line **(HSA.REI. D.12)**	*System of Equations* *pg175 #16-27*
1.0 **Beginning**	*Envision Textbook* *Section 4.1*	**o** I can solve a system of two linear equations in two variables by graphing **o** I can identify special types of linear systems that result in no solution or infinity many solutions **(HSA.REI. C.6)**	*Envision Textbook* *Pg148 #13-18,20-23*

Proficiency Scale – Algebra I

Unit 6: Exponential Functions

Power Standard: HSF. LE. A. 1.C

Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another.

Score	Textbook Reference Sections	Criteria	Evidence **Below are suggested assignments based on the school issued textbook.* **teachers may alter these using their own materials as long as everyone teaching the course uses similar materials and the questions reflect the same concepts as the suggested problems*
4.0 Advanced	*Envision Textbook* *Section 6.4*	**o** I can identify arithmetic and geometric sequences by recognizing the differences between them **o** I can write a recursive formula for a geometric sequence o I can write an explicit formula for a geometric sequence **(HSF.IF.A.1 & HSF.BF. A.2 & HSF.LE.A.2)**	*Envision Textbook* *pg244 #17-40*
3.0 Proficient	*Envision Textbook* *Section 6.3*	**o** I can identify exponential growth and decay functions ○ From graphs ○ From equations ○ I can use exponential growth and decay functions to solve real-life problems **(HSF.LE.A.1.C & HSF.BF. A.1)**	*Envision Textbook* *pg237 #15-28*
2.0 Developing	*Envision Textbook* *Section 6.2*	○ I can identify and evaluate exponential functions ○ I can write a rule to describe exponential functions displayed in a table of numbers ○ I can graph exponential functions **(HSF.IF.B.4 & HSF.IF. B5 & HSF.IF.B.6)**	*Envision Textbook* *pg 229 #15-23, 26 - 28*

1.0 **Beginning**	*Envision Textbook* *Section 6.1*	**o** I can simplify expressions using properties of exponents including: **o** Product **o** Quotient **o** Power **o** Zero **o** Negative exponents **(HSN.RN.B.3)**	*Envision Textbook* *Pg222 #25-43, 45,*

Proficiency Scale – Algebra I

Unit 7: Polynomials and Factoring

Power Standard: HSA.SSE. A.2

Use the structure of an expression to identify ways to rewrite it

Score	Textbook Reference Sections	Criteria	Evidence **Below are suggested assignments based on the school issued textbook.* **teachers may alter these using their own materials as long as everyone teaching the course uses similar materials and the questions reflect the same concepts as the suggested problems*
4.0 Advanced	*Envision Textbook* *Section 7.7*	o I can factor special products o perfect square trinomials o difference of perfect squares o I can factor polynomials of a higher degree completely **(HSA.SSE. A.2 & HSA.SSE. A.1.B & HSA.SSE. A.1.A)**	*Envision Textbook* *pg305 #29-50*
3.0 Proficient	*Envision Textbook* *Section 7.6*	**o** I can factor a quadratic equation in the form $ax^2 + bx + c$ **(HSA.SSE. A.2 & HSA.SSE. A.1.A & HSA.SSE. A.1.B)**	*Envision Textbook* *pg299 #23-26, 33-49*
2.0 Developing	*Envision Textbook* *Section 7.4 & 7.5*	○ I can find the greatest common factor ○ I can factor using the GCF ○ I can factor a quadratic equation in the form $x^2 + bx + c$ **(HSA.SSE. A.2 & HSA.SSE. A.1.A & HSA.SSE. A.1.B)**	*Envision Textbook* *GCF* *pg285 #26-38* *Factor* *pg292 #22-37*

1.0 **Beginning**	*Envision Textbook* *Section 7.1 & 7.2 & 7.3*	**o** I can perform the following operations to simplify polynomials ○ Add ○ Subtract ○ Multiply ○ I can identify special products of polynomials **(HSA.SSE. A.2 & HSA.SSE. A.1.A & HSA.SSE. A.1.B)**	*<u>Envision Textbook</u>* *Add/Subtract* *pg265 #19-36, 38-40* *Multiply* *pg273 #18-34* *Special Cases of Multiplying* *pg279 #16-25, 28-33, 37,38*

Proficiency Scale – Algebra I

Unit 8: Quadratic Functions

Power Standard: HSF. IF. B.4

For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship.

Score	Textbook Reference Sections	Criteria	Evidence **Below are suggested assignments based on the school issued textbook.* **teachers may alter these using their own materials as long as everyone teaching the course uses similar materials and the questions reflect the same concepts as the suggested problems*
4.0 Advanced	*Envision Textbook* *Section 8.5*	**o** I can determine whether a linear, exponential, or quadratic function best models a data set **(HSF.LE.A.2 & HSS.ID. B.6.A)**	*Envision Textbook* *pg349 #11-14,17-20*
3.0 Proficient	*Envision Textbook* *Section 8.4*	**o** I can use quadratic functions to model real-world situation ○ Area ○ Vertical motion **(HSF.IF.B.4 & HSS.ID. B.6)**	*Envision Textbook* *pg341 #14-19,24*
2.0 Developing	*Envision Textbook* *Section 8.2 & 8.3*	○ I can graph quadratic functions using vertex form ○ Using the vertex and axis of symmetry ○ I can understand the transformations that come from k in $f(x)= x^2 + k$ ○ I can graph quadratic functions using standard form ○ Relating c to the graph of $f(x) = ax^2 + bx + c$ ○ Using the vertex and axis of symmetry **(HSF.IF.C.7 & HSF.BF. B.3 & HSF.IF.B.4 & HSF.IF.C.7. A)**	*Envision Textbook* *Vertex Form* *pg327 #15-36* *Standard Form* *pg334 #15-28, 33-36*

1.0 **Beginning**	*Envision Textbook* *Section 8.1*	**o** I can identify characteristics of a parabola including: ○ Vertex ○ Axis of symmetry ○ Domain and Range ○ I can explain how the value of a affects the graph of a quadratic **(HSA.CED. A.2 & HSF.BF. B.3 & HSF.IF.C.7)**	*Envision Textbook* *Pg320 #14-23*

Proficiency Scale – Algebra I

Unit 9: Solving Quadratic Equations

Power Standard: HSA. REI.B.4B

Solve quadratic equations by inspection, taking square roots, the quadratic formula and factoring, as appropriate to the initial form of the equation.

Score	Textbook Reference Sections	Criteria	Evidence **Below are suggested assignments based on the school issued textbook.* **teachers may alter these using their own materials as long as everyone teaching the course uses similar materials and the questions reflect the same concepts as the suggested problems*
4.0 Advanced	*Envision Textbook* *Section 9.5*	**o** I can use the completing the square to solve a quadratic equation **(HSA.REI. B.4.B)**	*Envision Textbook* *pg387 #20-33*
3.0 Proficient	*Envision Textbook* *Section 9.4 & 9.6*	**o** I can solve quadratic equations by taking square roots **o** I can solve quadratic equations using the quadratic formula ○ I can determine the number of solutions of a quadratic equation using the discriminant **(HSA.REI. B.4.B & HSA.CED. A.1)**	*Envision Textbook* *square root* *pg380 #23-42* *Quadratic formula* *pg394 #19 - 39*
2.0 Developing	*Envision Textbook* *Section 9.1 & 9.2*	○ I can use graphs to find and approximate the zeros of a function ○ I can use tables to find and approximate the zeros of a function ○ I can solve quadratic equations in factored form **(HSA.CED. A.1 & HSA.CED. A.2 & HSA.REI. B.4.B & HAS.SSE. B.3.A)**	*Envision Textbook* *Graphs* *pg362 #18-33* *Factor* *pg368 #20-31*

1.0 **Beginning**	*Envision Textbook* *Section 9.3*	**o** I can use properties of radicals to simplify expressions ○ Simplify radicals with a focus on square roots ○ I can perform operations with radicals ○ Adding and subtracting radicals ○ Multiplying radicals ○ Dividing radicals (focus on square roots) **(HSN.RN. A.2)**	*<u>Envision Textbook</u>* *Pg374 #26-45* *+supplemental for division*

Proficiency Scale – Algebra I

Unit 10: Data Analysis

Power Standard: HSS.ID. B.6.A

Fit a function to the data; use functions fitted to data to solve problems in the context of the data. Use given functions or choose a function suggested by the context.

Score	Textbook Reference Sections *(E = example reference)*	Criteria	Evidence **Below are suggested assignments based on the school issued textbook. *teachers may alter these using their own materials as long as everyone teaching the course uses similar materials and the questions reflect the same concepts as the suggested problems*
4.0 Advanced	*Envision Textbook* *Section 3.6 E5*	**o** I can determine if a statement of causation seems reasonable or unreasonable and defend my decision. o I can distinguish between correlation and causation **(HSS.ID. C.9)**	*Envision Textbook* *pg133 #22-26*
3.0 Proficient	*Envision Textbook* *Section 3.6 E1 – E2, 8.4 E4*	○ I can write a line of best fit to model data ○ Linear regression ○ Quadratic regression ○ I can determine the correlation coefficient and how it affects the scatter plot data ○ I can make predictions using the line of best fit **(HSS.ID. B.6 & HSS.ID. B.6.A & HSS.ID. C.8)**	*Envision Textbook* *Linear* *pg133 #14-21* *Quadratic* *pg341 #20-23*
2.0 Developing	*Envision Textbook* *Section 3.5 E3 & E4 & 8.4 E3*	○ I can use my scatter plot to draw in a trend line ○ I can use my trend line to write a line of best fit by hand. **(HSS.ID. B.6 & HSS.ID. B.6.A)**	*Envision Textbook* *Linear* *pg124 #20-24 + supplemental for quadratic scatter plots*

1.0 **Beginning**	*Envision Textbook* *Section 3.5 – E1 & E2*	**o** I can identify correlation between sets (positive, negative, none) ○ I can create a scatter plot from tables given for a linear function ○ I can create a scatter plot from tables given for a quadratic function **(HSS.ID. B.6)**	*<u>Envision Textbook</u>* *Pg124 #15-19*