

**American Diploma Project End of Course Exam Analysis**

No.	Standard	Type	Calculator	Benchmark
<b>Linear Equations and Functions and Inequalities (20 points/53 or 38%)</b>				
1	L1.a Linear	MC	NO	Recognize, describe and represent linear relationships using words, tables, numerical patterns, graphs and equations. Translate among these representations.
3	L1.c Linear	MC	NO	Graph the absolute value of a linear function and determine and analyze its key characteristics.
7	L2.d Linear Equations	MC	NO	Solve systems of linear equations in two variables using algebraic and graphic procedures.
9	L2.c Non-Linear Equations	MC	NO	Graph and analyze the graph of the solution set of a two-variable linear inequality.
14	L1.b Linear Functions	MC	NO	Describe, analyze and use key characteristics of linear functions and their graphs.
16	L2.e Linear Equations and Inequalities	MC	NO	Recognize, express and solve problems that can be modeled using single-variable linear equations; one- or two variable inequalities; or two-variable systems of linear equations. Interpret their solutions in terms of the context of the problem.
17	L2.a Linear Equations and Inequalities	MC	NO	Solve single-variable linear equations and inequalities with rational coefficients.
18	L1.d Linear Functions	SA	NO	Recognize, express and solve problems that can be modeled using linear functions. Interpret their solutions in terms of the context of the problem.
23	L2.b Non-Linear Equations	MC	NO	Solve equations involving the absolute value of a linear expression.
27	L2.a Linear Equations and Inequalities	MC	YES	Solve single-variable linear equations and inequalities with rational coefficients.
29	L2.e Linear Equations and Inequalities	MC	YES	Recognize, express and solve problems that can be modeled using single-variable linear equations; one- or two variable inequalities; or two-variable systems of linear equations. Interpret their solutions in terms of the context of the problem.
35	L1.d Linear Functions	MC	YES	Recognize, express and solve problems that can be modeled using linear functions. Interpret their solutions in terms of the context of the problem.

36		ER	YES	Extended-response items can be written to address multiple aspects of the standard. This particular item was written to the L standard, <i>Linear Relationships</i> , and mainly addresses the following benchmarks within the standard.
	L.1.a Linear Functions			Recognize, describe and represent linear relationships using words, tables, numerical patterns, graphs and equations. Translate among these representations.
	L.1. d Linear Functions			Recognize, express and solve problems that can be modeled using linear functions. Interpret their solutions in terms of the context of the problem.
	L.2.e Linear Equations and Inequalities			Recognize, express and solve problems that can be modeled using single-variable linear equations; one- or two-variable inequalities; or two-variable systems of linear equations. Interpret their solutions in terms of the context of the problem.
29	L2.e Linear Equations and Inequalities	MC	YES	Recognize, express and solve problems that can be modeled using single-variable linear equations; one- or two variable inequalities; or two-variable systems of linear equations. Interpret their solutions in terms of the context of the problem.
35	L1.d Linear Functions	MC	YES	Recognize, express and solve problems that can be modeled using linear functions. Interpret their solutions in terms of the context of the problem.
36		ER	YES	Extended-response items can be written to address multiple aspects of the standard. This particular item was written to the L standard, <i>Linear Relationships</i> , and mainly addresses the following benchmarks within the standard.
	L.1.a Linear Functions			Recognize, describe and represent linear relationships using words, tables, numerical patterns, graphs and equations. Translate among these representations.
	L.1. d Linear Functions			Recognize, express and solve problems that can be modeled using linear functions. Interpret their solutions in terms of the context of the problem.
	L.2.e Linear Equations and Inequalities			Recognize, express and solve problems that can be modeled using single-variable linear equations; one- or two-variable inequalities; or two-variable systems of linear equations. Interpret their solutions in terms of the context of the problem.
40	L2.b Linear Equations and Inequalities	MC	YES	Solve equations involving the absolute value of a linear expression
44	L1.b Linear Functions	MC	YES	Describe, analyze and use key characteristics of linear functions and their graphs.

45	L2.c Linear Equations and Inequalities	MC	YES	Graph and analyze the graph of the solution set of a two-variable linear inequality.
<b>Non-Linear Functions (11 points/53 or 21%)</b>				
5	N1.a Non-Linear Functions	SA	NO	Recognize, describe, represent and analyze a quadratic function using words, tables, graphs or equations.
6	N1.b Non-Linear Functions	MC	NO	Analyze a table, numerical pattern, graph, equation or context to determine whether a linear, quadratic or exponential relationship could be represented. Or, given the type of relationship, determine elements of the table, numerical pattern or graph.
8	N2.b Non-Linear Equations	MC	NO	Solve single-variable quadratic equations.
11	N1.a Non-Linear Functions	MC	NO	Recognize, describe, represent and analyze quadratic function using words, tables, graphs or equations.
22	N1.b Non-Linear Functions	MC	NO	Analyze a table, numerical pattern, graph, equation or context to determine whether a linear, quadratic or exponential relationship could be represented. Or, given the type of relationship, determine elements of the table, numerical pattern or graph.
25	N2.a Non-Linear Equations	MC	YES	Solve equations involving several variables for one variable in terms of the others.
31	N1.c Non-Linear Functions	MC	YES	Recognize and solve problems that can be modeled using a quadratic function. Interpret the solution in terms of the context of the original problem.
37	N1.c Non-Linear Functions	MC	YES	Recognize and solve problems that can be modeled using a quadratic function. Interpret the solution in terms of the context of the original problem.
39	N2.a Non-Linear Equations	MC	YES	Solve equations involving several variables for one variable in terms of the others.
42	N2.b Non-Linear Equations	SA	YES	Solve single-variable quadratic equations.
<b>Number Sense and Operations and Algebraic Expressions (14 points/53 or 26%)</b>				
4	O1.d Number Sense and Operations	MC	NO	Use the properties of radicals to rewrite numerical expressions containing square roots in different but equivalent forms or to solve problems.

12	O.2.b Algebraic Expressions	ER	NO	Add, subtract and multiply polynomial expressions with or without a context. (Extended-response items can be written to address multiple aspects of the standard. This particular item was written to the O standard, <i>Operations on Numbers and Expressions</i> , and mainly addresses the following benchmarks within the standard.)
13	O1.c Number Sense and Operations	MC	NO	Apply the laws of exponents to numerical expressions with integral exponents to rewrite them in different but equivalent forms or to solve problems.
19	O1.a Number Sense and Operations	MC	NO	Use properties of number systems within the set of real numbers to verify or refute conjectures or justify reasoning and to classify, order, and compare real numbers.
20	O1.d Number Sense and Operations	MC	NO	Use the properties of radicals to rewrite numerical expressions containing square roots in different but equivalent forms or to solve problems.
28	O2.c Algebraic Expressions	MC	YES	Factor simple polynomial expressions with or without a context.
30	O2.b Algebraic Expressions	SA	YES	Add, subtract and multiply polynomial expressions with or without a context.
32	O2.d Algebraic Expressions	MC	YES	Use the properties of radicals to convert algebraic expressions containing square roots into different but equivalent forms or to solve problems.
38	O2.a Algebraic Expressions	MC	YES	Apply the laws of exponents to algebraic expressions with integral exponents to rewrite them in different but equivalent forms or to solve problems.
43	O1.b Number Sense and Operations	MC	YES	Use rates, ratios and proportions to solve problems, including measurement problems.
46	O2.b Algebraic Expressions	MC	YES	Add, subtract and multiply polynomial expressions with or without a context.

**Data Analysis and Statistical Analysis and Probability (8 points/53 or 15%)**

2	D1.c Data and Statistical Analysis	MC	NO	Evaluate the reliability of reports based on data published in the media.
10	D.2.b Probability	MC	NO	Apply probability concepts to determine the likelihood an event will occur in practical situations.
15	D1.a Data and Statistical Analysis	MC	NO	Interpret and compare linear models for data that exhibit a linear trend including contextual problems.

21	D1.c Data and Statistical Analysis	MC	NO	Evaluate the reliability of reports based on data published in the media.
24	D1.a Data and Statistical Analysis	SA	NO	Interpret and compare linear models for data that exhibit a linear trend including contextual problems.
26	D2.a Probability	MC	YES	Use counting principles to determine the number of ways an event can occur. Interpret and justify solutions.
33	D2.b Probability	MC	YES	Apply probability concepts to determine the likelihood an event will occur in practical situations.
34	D1.b Data and Statistical Analysis	MC	YES	Use measures of center and spread to compare and analyze data sets.
41	D2.a Probability	MC	YES	Use counting principles to determine the number of ways an event can occur. Interpret and justify solutions.
47	D1.b Data and Statistical Analysis	MC	YES	Use measures of center and spread to compare and analyze data sets.