STAAR Algebra I Assessment

Mathematical Process Standards

These student expectations will not be listed under a separate reporting category. Instead, they will be incorporated into test questions across r

Reporting Category 1:
Number and Algebraic Methods

The student will demonstrate an understanding of how to use algebraic methods to manipulate numbers, expressions, and equations.

(A.10) Number and algebraic methods. The student applies the mathematical process standards and algebraic methods to rewrite in equivalent forms and perform operations on polynomial expressions. The student is expected to

(A) add and subtract polynomials of degree one and degree two;

(B) multiply polynomials of degree one and degree two;

(C) determine the quotient of a polynomial of degree one and polynomial of degree two when divided by a polynomial of degree one and polynomial of degree two when the degree of the divisor does Tf3 33 Td[(a)]TJ 0 TD

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(A.12) Number and algebraic methods. The student applies the mathematical process standards and algebraic methods to write, solve, analyze, and evaluate equations, relations, and functions. The student is expected to

(A) decide whether relations represented verbally, tabularly, graphically, and symbolically define a function;

(B) evaluate functions, expressed in function notation, given one or more elements in their domains;

(C) identify terms of arithmetic and geometric sequences when the sequences are given in function form using recursive processes;

(D) write a formula for the n^{th} term of arithmetic and geometric sequences, given the value of several of their terms; and

(E) solve mathematic and scientific formulas, and other literal

Reporting Category 2:
Describing and Graphing Linear Functions, Equations, and Inequalities

The student will demonstrate an understanding of how to describe and graph linear functions, equations, and inequalities.

(A.3) Linear functions, equations, and inequalities. The student applies the mathematical process standards when using graphs of linear functions, key features, and related transformations to represent in multiple ways and solve, with and without technology, equations, inequalities, and systems of equations. The student is expected to

(A) determine the slope of a line given a table of values, a graph, two points on the line, and an equation written in various forms, including $y = mx + b$, $Ax + By = C$, and $y - y_1 = m(x - x_1)$;

(B) calculate the rate of change of a linear function represented tabularly, graphically, or algebraicai 03 Tr 3.6(d)55 0 Td[(t)-29 (h)99 (t)- r( )T 0 T

(A.4) Linear functions, equations, and inequalities. The student applies the mathematical process standards to formulate statistical relationships and evaluate their reasonableness based on real-world data. The student is expected to

(A) calculate, using technology, the correlation coefficient between two quantitative variables and interpret this quantity as a measure of the strength of the linear association;

(B) compare and contrast association and causation in real-world problems; and

(C) write, with and without technology, linear functions that provide a reasonable fit to data to estimate solutions and make predictions for real-world problems.

Reporting Category 3:
Writing and Solving Linear Functions, Equations, and Inequalities

The student will demonstrate an understanding of how to write and solve

(A.5) Linear functions, equations, and inequalities. The student applies the mathematical process standards to solve, with and without technology, linear equations and evaluate the reasonableness of their solutions. The student is expected to

(A) solve linear equations in one variable, including those for which the application of the distributive property is necessary and for which variables are included on both sides;

(B) solve linear inequalities in one variable, including those for which the application of the distributive property is necessary and for which variables are included on both sides; and

(C) solve systems of two linear equations with

Reporting Category 4:
Quadratic Functions and Equations

(A.8) Quadratic functions and equations. The student applies the mathematical process standards to solve, with and without technology, quadratic equations and evaluate the reasonableness of their solutions. The student formulates statistical relationships and evaluates their reasonableness based on real-world data. The student is

Reporting Category 5: