



Grade 6 Mathematics Assessment

Eligible Texas Essential
Knowledge and Skills

STAAR Grade 6 Mathematics 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 reporting categories since the application of mathematical process standards is part of each knowledge statement.

- (6.1) Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to
- (A) apply mathematics to problems arising in everyday life, society, and the workplace;
 - (B) use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution;
 - (C) select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems;
 - (D) communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate;
 - (E) create and use representations to organize, record, and communicate mathematical ideas;
 - (F) analyze mathematical relationships to connect and communicate mathematical ideas; and
 - (G) display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication.

- (6.5) Proportionality. The student applies mathematical process standards to solve problems involving proportional relationships. The student is expected to
- (C) use equivalent fractions, decimals, and percents to show equal parts of the same whole.
- (6.7) Expressions, equations, and relationships. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to
- (A) generate equivalent numerical expressions using order of operations, including whole number exponents, and prime factorization;
 - (B) distinguish between expressions and equations verbally, numerically, and algebraically;
 - (C) determine if two expressions are equivalent using concrete models, pictorial models, and algebraic representations; and
 - (D) generate equivalent expressions using the properties of operations: inverse, identity, commutative, associative, and distributive properties.

- (B) solve real-world problems to find the whole given a part and the percent, to find the part given the whole and the percent, and to find the percent given the part and the whole, including the use of concrete and pictorial models.
- (6.6) Expressions, equations, and relationships. The student applies mathematical process standards to use multiple representations to describe algebraic relationships. The student is expected to
- (A) identify independent and dependent quantities from tables and graphs;
 - (B) write an equation that represents the relationship between independent and dependent quantities from a table; and
 - (C) represent a given situation using verbal descriptions, tables, graphs, and equations in the form $ax + b = c$ or $ax + b = c$.
- (6.9) Expressions, equations, and relationships. The student applies mathematical process standards to use equations and inequalities to represent situations. The student is expected to
- (A) write one-variable, one-step equations and inequalities to represent constraints or conditions within problems;
 - (B) represent solutions for one-variable, one-step equations and inequalities on number lines; and
 - (C) write corresponding real-world problems given one-variable, one-step equations or

Reporting Category 3: Geometry and Measurement

The student will demonstrate an understanding of how to represent and apply geometry and measurement concepts.

(6.4)

