Delaware System of Student Assessments (DeSSA)

Formulas, Measurement Conversions, and Angles

Delaware will implement the guidelines for Smarter Assessment without modification. The items and related statistics that are used for Smarter Mathematics and ELA/Literacy are being shared across Consortium member states.

Conversions or formulas that are allowable with a particular item type will be given either in the item stem or in the stimulus for a performance task (PT).

Formulas:

List A – Formulas NOT included for any item type at any grade level in either the Smarter interim or summative assessments
- Perimeter or area of a rectangle
- Perimeter or area of a parallelogram
- Perimeter or area of a trapezoid
- Perimeter or area of a square
- Perimeter or area of a triangle
- Circumference or area of a circle
- Arc length
- Area of a sector of a circle
- Sum of interior angles of a polygon
- Measure of one interior angle of a regular polygon
- Surface area of a rectangular prism
- Surface area of a cube
- Surface area of right pyramids with a rectangular or triangular base
- Volume of a right rectangular prism
- Volume of a cube
- Quadratic formula
- Pythagorean Theorem

NOT Included at all

List B – Formulas only given in PT stimulus and not in CAT items.
- Volume of a cone (HS)*
- Volume of a sphere (HS)*
- Volume of a cylinder (HS)*

* Applications of volume formulas are not considered major work in grade 8. Performance tasks that measure more complex applications of such formulas are reserved for high school.

Included ONLY in PTs

Measurement Conversions:

List C – Conversions NOT included in directions for any item type at any grade level in either the Smarter interim or summative assessments: • 1 foot = 12 inches • 1 yard = 3 feet • 1 meter = 100 centimeters • 1 kilometer = 1000 meters • 1 kilogram = 1000 grams • 1 liter = 1000 milliliters • 1 hour = 60 minutes • 1 minute = 60 seconds • 1 week = 7 days **NOT included at all**	***List D*** – Conversions only given in Performance Task (PT) stimulus and NOT in computer adaptive test (CAT) items: • 1 mile = 5280 feet (grade 5)* • 1 mile = 1760 yards (grade 5)* • 1 pound = 16 ounces (grade 4)* • 1 cup = 8 fluid ounces (grade 4)* • 1 pint = 2 cups (grade 4)* • 1 quart = 2 pints (grade 4)* • 1 gallon = 4 quarts (grade 4)* * First grade level at which tasks are eligible for the given conversion in parenthesis. **Included ONLY in PTs**

Angle Measurements Facts and Ratios:

List E – Angle measurement facts and ratios NOT included for any item type at any grade level in either the Smarter interim or summative assessments. • Number of degrees in a circle • Sum of interior angles of a triangle • Side length ratios in a 45-45-90 triangle • Side length ratios in a 30-60-90 triangle • Trigonometric ratios for sine, cosine, and tangent **NOT included at all**	

Note: All formulas, measurement conversions, and angle measurement facts and ratios, ***not*** appearing in these lists may be given in CAT item stems and PTs stimuli as appropriate for a particular item or task with respect to the standards for the intended grade level.

http://www.smarterbalanced.org/wordpress/wp-content/uploads/2014/03/Formulas-and-Conversions-Guidelines.pdf