

Grade 4 Smarter Balanced Assessment Item Specifications Fact Sheet

Claim 1 - Target K: Geometric measurement: understand concepts of angle and measure angles.

Content Domain: Measurement and Data

Claim 1 Supporting Cluster

Standards Assessed in Target K:

4.MD.5: Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement:

a. An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle.

An angle that turns through $\frac{1}{360}$ of a circle is called a “one-degree angle,” and can be used to measure angles.

b. An angle that turns through n one-degree angles is said to have an angle measure of n degrees.

4.MD.6: Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.

4.MD.7: Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure.

Achievement Level Descriptors

Level 1	No Descriptor.
Level 2	Students should be able to recognize whole number degrees on a protractor and measure angles in whole-number degrees using a protractor.
Level 3	Students should be able to construct angles in whole-number degrees using a protractor, use understanding of angle concepts to decompose a larger angle with two or more smaller angles that have the same sum as the original, and determine an unknown angle measure in a diagram.
Level 4	Students should be able to solve addition and subtraction problems to find unknown angles on a diagram in problems by using an equation with a symbol for the unknown angle measure.

Construct-Relevant Vocabulary

angle, intersect, one-degree angle, protractor, ray, vertex

Allowable Stimulus Materials

Graphics of angles, turns, and rotations; protractors