Geometry PBA/MYA

Evidence Statement Key	Evidence Statement Text	Clarifications	MP	Calculator
G-CO.1	Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc.	None	6	Neutral
G-SRT.1a	Verify experimentally the properties of dilations given by a center and a scale factor: a) A dilation takes a line not passing through the center of the dilation to a parallel line, and leaves a line passing through the center unchanged.	None	1, 3, 5, 8	Neutral
G-SRT.1b	Verify experimentally the properties of dilations given by a center and a scale factor: b) The dilation of a line segment is longer or shorter in the ratio given by the scale factor.	None	1, 3, 5, 8	Neutral
G-SRT.2	Given two figures, use the definition of similarity in terms of similarity transformations to decide if they are similar.	i) The "explain" part of standard G-SRT.2 is not assessed here. See Sub-claim C for this aspect of the standard.	7	Neutral
G-SRT.6	Understand that by similarity, side ratios in right triangles are properties of the angles in the triangle, leading to definitions of trigonometric ratios for acute angles.	i) Trigonometric ratios include sine, cosine, tangent, cotangent, secant and cosecant	7	Neutral
G-SRT.7-2	Use the relationship between the sine and cosine of complementary angles.	i) The "explain" part of standard G-SRT.7 is not assessed here. See Sub-claim C for this aspect of the standard.	7	Neutral
G-SRT.8	Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems.★	None	1, 2, 5, 6	Item Specific
G-GPE.6	Find the point on a directed line segment between two given points that partitions the segment in a given ratio.	None	1, 5	Neutral

"Modeling is best interpreted not as a collection of isolated topics but rather in relation to other standards. Making mathematical models is a Standard for Mathematical Practice, and specific modeling standards appear throughout the high school standards indicated by a star symbol (★)." (http://www.corestandards.org/Math/Content/HSM)

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HS.C.13.1	Apply geometric reasoning in a coordinate setting, and/or use coordinates to draw geometric conclusions. Content scope: G-GPE.6, G-GPE.7.	None	3	Yes
HS.C.13.2	Apply geometric reasoning in a coordinate setting, and/or use coordinates to draw geometric conclusions. Content scope: G-GPE.4.	None	3	Yes
HS.C.13.3	Apply geometric reasoning in a coordinate setting, and/or use coordinates to draw geometric conclusions. Content scope: G-GPE.5.	None	3	Yes
HS.C.14.1	Construct, autonomously, chains of reasoning that will justify or refute geometric propositions or conjectures. Content scope: G-CO.9, G-CO.10.	None	3	Yes
HS.C.14.2	Construct, autonomously, chains of reasoning that will justify or refute geometric propositions or conjectures. Content scope: G-CO.A, G-CO.B.	None	3	Yes
HS.C.14.3	Construct, autonomously, chains of reasoning that will justify or refute geometric propositions or conjectures. Content scope: G-CO.D.	None	3	Yes
HS.C.14.5	Construct, autonomously, chains of reasoning that will justify or refute geometric propositions or conjectures. Content Scope: G-SRT.A.	None	3	Yes
HS.C.14.6	Construct, autonomously, chains of reasoning that will justify or refute geometric propositions or conjectures. Content Scope: G-SRT.B.	None	3	Yes
HS.C.15.14	Present solutions to multi-step problems in the form of valid chains of reasoning, using symbols such as equals signs appropriately (for example, rubrics award less than full credit for the presence of nonsense statements such as $1+4=5+7=12$ even if the final answer is correct), or identify or describe errors in solutions to multi-step problems and present corrected solutions. Content Scope: G-SRT.C.	None	6	Yes

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HS.C.18.2	Use a combination of algebraic and geometric reasoning to construct, autonomously, chains of reasoning that will justify or refute propositions or conjectures about geometric figures Content scope: Algebra content from Algebra 1 course; geometry content from the Geometry course PBA.	None	3, 6	Yes
HS.D.1-2	Solve multi-step contextual problems with degree of difficulty appropriate to the course, requiring application of knowledge and skills articulated in 6.G, 7.G, and/or 8.G.	None	4, may involve 1, 2, 5, 7	Yes
HS.D.2-1	Solve multi-step contextual problems with degree of difficulty appropriate to the course involving perimeter, area, or volume that require solving a quadratic equation.	i) To make the tasks involve strategic use of tools, in this case, the quadratic formula (see e.g., PARRC Model Content Frameworks, P.81, final paragraph on the sense in which the quadratic formula is a tool) - tasks do not cue students that a quadratic equation is involved in the task, do not cue use of the quadratic formula, etc. ii) For example, An artist wants to build a right-triangular frame in which one of the legs exceeds the other in length by 1 unit, and in which the hypotenuse exceeds the longer leg in length by 1 unit. Use algebra to show that there is one and only one such right triangle, and determine its side lengths." The SBAC Sample HS Items "cake problem" in their item specs	1, 4, 5	Yes
HS.D.2-2	Solve multi-step contextual problems with degree of difficulty appropriate to the course involving perimeter, area, or volume that require finding an approximate solution to a polynomial equation using numerical/graphical means.	i) Tasks may or may not have a context. ii) Tasks may involve coordinates (G-GPE.7) iii) Refer to A-REI.11 for some of the content knowledge from the previous course relevant to these tasks. iv)Cubic polynomials are limited to ones in which linear and quadratic factors are available v) To make the tasks involve strategic use of tools (MP.5), calculation and graphing aids are available but tasks do not prompt the student to use them. vi) See for example the "Propane Tanks" in ITN Appendix F.	1, 4, 5	Yes

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HS.D.2-11	Solve multi-step contextual word problems with degree of difficulty appropriate to the course, requiring application of course-level knowledge and skills articulated in G-SRT.8 involving right triangles in an applied setting.	i) Tasks may or may not require the student to autonomously make an assumption or simplification in order to apply techniques of right triangles. For example, a configuration of three buildings might form a triangle that is nearly but not quite a right triangle, so that a good approximate result can be obtained if the student autonomously approximates the triangle as a right triangle.	4, 2	Yes
HS.D.3-2	Micro-models: Autonomously apply a technique from pure mathematics to a real-world situation in which the technique yields valuable results even though it is obviously not applicable in a strict mathematical sense (e.g., profitably applying proportional relationships to a phenomenon that is obviously nonlinear or statistical in nature). Content Scope: Knowledge and skills articulated in G-CO.1, G-SRT.1a, G-SRT.1b, G-SRT.2, G-SRT.6, G-SRT.7-2, G-SRT.8, G-GPE.6, and other course level appropriate standards within G-GPE, G-CO and G-SRT (see the Model Content Framework for specific content standards).	i) Tasks include a geometric aspect. ii) Tasks may also include other content dimensions (e.g., algebraic, numerical).	4, may involve 1, 2, 5, 7	Yes
HS.D.3-4	Reasoned estimates: Use reasonable estimates of known quantities in a chain of reasoning that yields an estimate of an unknown quantity. Content Scope: Knowledge and skills articulated in G-CO.1, G-SRT.1a, G-SRT.1b, G-SRT.2, G-SRT.6, G-SRT.7-2, G-SRT.8, G-GPE.6, and other course level appropriate standards within G-GPE, G-CO and G-SRT (see the Model Content Framework for specific content standards).	i) Tasks include a geometric aspect. ii) Tasks may also include other content dimensions (e.g., algebraic, numerical).	4, may involve 1, 2, 5, 7	Yes