

## **Achievement Level Descriptors**

for

## **Analytic Geometry**

Georgia Department of Education September 2015 All Rights Reserved

Based on the 2014-2015 Administrations

## Achievement Levels and Achievement Level Descriptors

With the implementation of the Georgia Milestones Assessment System, Georgia educators have developed four achievement levels to describe student mastery and command of the knowledge and skills outlined in Georgia's content standards. Most students have at least some knowledge of the content described in the content standards; however, achievement levels succinctly describe how much mastery a student has. Achievement levels give meaning and context to scale scores by describing the knowledge and skills students must demonstrate to achieve each level.

The four achievement levels on Georgia Milestones are *Beginning Learner, Developing Learner, Proficient Learner,* and *Distinguished Learner.* The general meaning of each of the four levels is provided below:

**Beginning Learners do not yet demonstrate proficiency** in the knowledge and skills necessary at this grade level/course of learning, as specified in Georgia's content standards. The students *need substantial academic support* to be prepared for the next grade level or course and to be on track for college and career readiness.

**Developing Learners demonstrate partial proficiency** in the knowledge and skills necessary at this grade level/course of learning, as specified in Georgia's content standards. The students *need additional academic support* to ensure success in the next grade level or course and to be on track for college and career readiness.

**Proficient Learners demonstrate proficiency** in the knowledge and skills necessary at this grade level/course of learning, as specified in Georgia's content standards. The students *are prepared* for the next grade level or course and are on track for college and career readiness.

**Distinguished Learners demonstrate advanced proficiency** in the knowledge and skills necessary at this grade level/course of learning, as specified in Georgia's content standards. The students *are well prepared* for the next grade level or course and are well prepared for college and career readiness.

More detailed and content-specific concepts and skills are provided for each grade, content area, and course in the **Achievement Level Descriptors** (ALDs). ALDs are narrative descriptions of the knowledge and skills expected at each of the four achievement levels and were developed for each grade level, content area, and course by committees of Georgia educators in March 2015 and July 2015. The ALDs are based on the state-adopted content standards.

ALDs show a progression of knowledge and skills for which students must demonstrate competency across the achievement levels. It is important to understand that a student should demonstrate mastery of the knowledge and skills within his/her achievement level as well as all content and skills in any achievement levels that precede his/her own, if any. For example, a Proficient Learner should also possess the knowledge and skills of a Developing Learner and a Beginning Learner.

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ALD	Standard	Beginning Learner	Developing Learner	Proficient Learner	Distinguished Learner
Policy		Beginning Learners do not yet	Developing Learners	Proficient Learners	Distinguished Learners
		demonstrate proficiency in the	demonstrate partial proficiency	demonstrate proficiency in the	demonstrate advanced
		knowledge and skills necessary	in the knowledge and skills	knowledge and skills necessary	proficiency in the knowledge
		at this grade level/course of	necessary at this grade	at this grade level/course of	and skills necessary at this
		learning, as specified in	level/course of learning, as	learning, as specified in	grade level/course of learning,
		Georgia's content standards.	specified in Georgia's content	Georgia's content standards.	as specified in Georgia's
		The students need substantial	standards. The students need	The students are prepared for	content standards. The
		academic support to be	additional academic support to	the next grade level or course	students are well prepared for
		prepared for the next grade	ensure success in the next grade	and are on track for <i>college and</i>	the next grade level or course
		level or course and to be on	level or course and to be on	career readiness.	and are well prepared for
		track for college and career	track for college and career		college and career readiness.
		readiness.	readiness.		
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Range		A student who achieves at the	A student who achieves at the	A student who achieves at the	A student who achieves at the
		Beginning Learner level	Developing Learner level	Proficient Learner level	Distinguished Learner level
		demonstrates minimal	demonstrates partial command	demonstrates proficiency of the	demonstrates advanced
		command of the grade-level	of the grade-level standards.	grade-level standards.	proficiency of the grade-level
		standards.			standards.
		Identifies actional and imptional	Lines actional and imptional	Liese properties of retional and	Interrete understande and
	N.RN.1	Identifies rational and irrational	Uses rational and irrational	Uses properties of rational and	Interprets, understands, and
	N.RN.2	numbers and rational	numbers and rational	irrational numbers and rational	uses properties of rational and
	N.RN.3	exponents; and identifies	exponents; understands the	exponents; understands powers	irrational numbers and rational
	N.CN.1	complex numbers.	concepts of <i>i</i> ; and adds and	of <i>i</i> ; and multiplies complex	exponents; uses conjugates to
	N.CN.2		subtracts complex numbers.	numbers.	find quotients of complex
	N.CN.3				numbers; and interprets real
					and complex numbers to solve
	A.SSE.1	Uses arithmetic to perform	Describes the structure of	Interprets the structure of	quadratic equations. Interprets and analyzes the
	A.SSE.1 A.SSE.2	operations with expressions.	expressions and uses arithmetic	expressions and writes	structure of expressions and
	A.SSE.2 A.SSE.3		to perform operations; creates	expressions in equivalent forms	represents and writes
	A.SSE.S A.APR.1		equations that describe	to solve problems; performs	expressions in equivalent forms
	A.APK.1 A.CED.1		relationships; reasons using	arithmetic operations on	to solve problems; understands
	A.CED.1 A.CED.2		equations and inequalities; and	polynomials; creates equations	and uses arithmetic operations
	A.CED.2 A.CED.4		identifies solutions to systems	that describe numbers or	on polynomials; analyzes and
	A.CED.4 A.REI.4		of equations graphically.	relationships; solves equations	creates equations that describe
	A.REI.4 A.REI.7			and inequalities in one variable;	numbers and relationships;
	A.NEI.7			and solves systems of equations	solves multistep equations and
				in two variables.	
					inequalities in one variable; and

	,				
					solves systems of equations in two variables.
F	F.IF.4	Identifies and classifies	Interprets functions from	Interprets functions that arise in	Analyzes and interprets
F	F.IF.5	functions.	context; identifies functions;	applications in terms of the	functions that arise in complex
F	F.IF.6		builds functions that model	context; analyzes functions	applications or in terms of the
F	IF.7a		simple relationships; and	using different representations;	context; analyzes and
F	F.IF.8		compares linear, quadratic, and	builds functions that model	represents functions using
F	F.IF.9		exponential models.	relationships between two	different representations;
F	BF.1			quantities and builds new	builds functions that model
F	BF.3			functions from existing	complex relationships between
F	F.LE.3			functions; and constructs and	two quantities, including from
				compares linear, quadratic, and	existing functions; and analyzes
				exponential models and solves	linear, quadratic, and
				problems.	exponential models and solves
					problems.
G	6.CO.6	Identifies rigid transformations.	Uses transformations in the	Understands congruence in	Interprets, analyzes, and
G	6.CO.7		plane as a way to understand	terms of rigid motions and	understands congruence in
G	6.CO.8		and represent congruence and	proves geometric theorems and	terms of rigid motions and
G	6.CO.9		applies geometric theorems and	makes geometric constructions.	proves geometric theorems
G.	.CO.10		identifies geometric		and uses geometric
	.CO.11		constructions.		constructions to solve
G.	.CO.12				problems in context.
G.	.CO.13				
	.SRT.1	Identifies similarity figures and	Recognizes and identifies	Understands similarity in terms	Analyzes and understands
	.SRT.2	uses the Pythagorean theorem.	similarity transformations and	of similarity transformations	similarity in terms of similarity
	.SRT.3		uses the trigonometric ratios to	and proves theorems involving	transformations and proves
	.SRT.4		solve simple problems with right	similarity and defines	theorems involving similarity
	.SRT.5		triangles.	trigonometric ratios and solves	and interprets and defines
	.SRT.6			problems involving right	trigonometric ratios and solves
	.SRT.7			triangles.	multistep problems involving
	.SRT.8				right triangles.
	G.C.1	Calculates the circumference	Understands theorems about	Understands and applies	Understands and applies
	G.C.2	and area of a circle.	circles and finds simple arc	theorems about circles and finds	theorems about circles and
	G.C.3		lengths and areas of sectors of	arc lengths and areas of sectors	uses them in context and uses
	G.C.4		circles.	of circles.	arc lengths and areas of sectors
	G.C.5				of circles to solve problems.
	.GPE.1	Identifies the center and radius	Identifies the center and radius	Translates between geometric	Translates between geometric
	.GPE.2	of a circle from a graph.	of a circle from an equation; and	descriptions and the equation	descriptions and the equation
G.	.GPE.4		identifies the focus and directrix	for a conic section; uses	for a conic section; interprets

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		of a parabola from an equation.	coordinates to prove simple geometric theorems	and uses coordinates to prove simple geometric theorems
			algebraically; and derives the	algebraically; and derives the
			equation of a parabola given a	equation of a parabola given a
			focus and directrix.	graph.
G.MD.1	Calculates volume.	Uses volume formulas to solve	Explains volume formulas and	Explains volume formulas and
G.MD.2		problems, visualizes two- and	uses them to solve problems,	uses them to solve complex
G.MD.3		three-dimensional objects, and	visualizes relationships between	problems, visualizes
G.MD.4		selects geometric concepts to	two- and three-dimensional	relationships between two- and
G.MG.1		model situations.	objects, and applies geometric	three-dimensional objects, and
G.MG.2			concepts in modeling situations.	applies geometric concepts in
G.MG.3				modeling situations with
				multiple constraints.
S.ID.6	Represents data with	Represents data with two	Summarizes, represents, and	Summarizes, represents, and
S.CP.1	quantitative variables and	categorical and quantitative	interprets data on two	interprets data on two
S.CP.2	calculates the probability of	variables and calculates the	categorical and quantitative	categorical and quantitative
S.CP.3	independent events.	probabilities of independent	variables; understands	variables; understands and
S.CP.4		and dependent events.	independence and conditional	interprets independence and
S.CP.5			probability and uses them to	conditional probability and
S.CP.6			interpret data; and uses the	uses them to represent and
S.CP.7			rules of probability to compute	interpret data; and uses the
			probabilities of compound	rules of probability to
			events in a uniform probability	understand and compute
			model.	probabilities of compound
				events in a uniform probability
				model.