

**Scope and Sequence for**  
**Geometry**

**GEOMETRY  
SCOPE AND SEQUENCE**

TEKS	STUDENT EXPECTATIONS	RESOURCES	GRADING PERIOD					
			First 3 Weeks	Second 3 Weeks	Third 3 Weeks	Fourth 3 Weeks	Fifth 3 weeks	Sixth 3 Weeks
b1(A)	The student develops an awareness of the structure of a mathematical system, connecting definitions, postulates, logical reasoning, and theorems.	PH Ch. 1 GFA, Day 3						
b1(B)	Through the historical development of geometry systems, the student recognizes that mathematics is developed for a variety of purposes.	PH Ch. 1, 6, 11 GFA, Day 3						
b2(A)	The student uses constructions to explore attributes of geometric figures, to make conjectures about geometric relationships.	PH Ch. 8, 10 GFA, Day 4 Sketchpad						
b2(B)	The student makes and verifies conjectures and angles, lines, polygons, circles, and three-dimensional figures, choosing from a variety of approaches such as coordinate or axiomatic	PH Ch. 5 GFA, Day Four Sketchpad						
b3(B)	The student constructs and justifies statements about geometric figures and their properties.	PH Ch. 4, 5 GFA, Day One Sketchpad						
b3(D)	The student uses inductive reasoning to formulate a conjecture.	PH Ch. 5 GFA, Day One						
b4	The student selects an appropriate representation (concrete, pictorial, graphical, verbal, or symbolic) in order to solve problems.	PH Ch. 6						
c(1)	The student uses numeric and geometric patterns to make generalizations about geometric properties, including properties of polygons, ratios in similar figures and solids, and angle relationships in polygons and circles.	PH Ch. 10, 12 GFA, Day Two						

**Resource Key**

PH – Prentice Hall  
 GFA – TEXTEAMS Geometry  
 For All  
 Sketchpad – Geometers Sketchpad

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TEKS	STUDENT EXPECTATIONS	RESOURCES	GRADING PERIOD					
			First 3 Weeks	Second 3 Weeks	Third 3 Weeks	Fourth 3 Weeks	Fifth 3 weeks	Sixth 3 Weeks
d1(A)	The student describes, and draws cross sections and other slices of three-dimensional objects.	PH Ch. 2, 6						
d1(C)	The student uses top, front, side, and corner views of three-dimensional objects to create accurate and complete representations and solve problems.	PH Ch. 2, 7						
d2(A)	The student uses one- and two-dimensional coordinate systems to represent points, lines, line segments, and figures.	PH Ch. 10						
d2(B)	The student uses slopes and equations of lines to investigate geometric relationships, including parallel lines, perpendicular lines, and special segments of triangles and other polygons.	PH Ch. 2, 4, 9						
d2(C)	The student develops and uses formulas including distance and midpoint.	PH Ch. 2						
e2(B)	Based on explorations and using concrete models, the student formulates, and tests conjectures about the properties and attributes of polygons and their components parts.	PH Ch. 4						
e2(D)	The student analyzes the characteristics of three-dimensional figures and their components parts.	PH Ch. 6						
e3(A)	The student uses congruence transformations to make conjectures and justify properties of geometric figures.	PH Ch. 3 GFA, Day Five						
b2(B)	The student makes and verifies conjectures about angles, lines, polygons, circles, and three-dimensional figures, choosing from a variety of approaches such as transformational.	PH Ch. 8, 9, 10, 12 GFA, Day Four						
b3(A)	The student determines if the converse of a conditional statement is true or false.	PH Ch. 4, 5, 7, 12 GFA, Day One						

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TEKS	STUDENT EXPECTATIONS	RESOURCES	GRADING PERIOD					
			First 3 Weeks	Second 3 Weeks	Third 3 Weeks	Fourth 3 Weeks	Fifth 3 weeks	Sixth 3 Weeks
c2	The student uses properties of transformations and their compositions to make connections between mathematics and the real world in applications such as tessellations or fractals.	PH Ch. 3, 10, 11 GFA, Day Two		_____				
f1	The student uses similarity properties and transformations to explore and justify conjectures about geometric figures.	PH Ch. 2, 3, 10 GFA, Day Five		_____				
c3	The student identifies and applies patterns from right triangles to solve problems, including special right triangles (45-45-90 and 30-60-90) and triangles whose ideas are Pythagorean triples.	Ch. 5, 11 GFA, Day Two			_____			
d1(B)	The student uses nets to represent and construct three-dimensional objects.	Ch. 6			_____			
e1(A)	The student finds areas of regular polygons and composite figures.	Ch. 5, 6, 11 GFA, Day 3 Sketchpad			_____			
e1(B)	The student finds areas of sectors and arc lengths of circles using proportional reasoning.	Ch. 5, 6			_____			
e1(C)	The student develops, extends, and uses the Pythagorean Theorem.	Ch. 5, 11			_____			
e1(D)	The student finds surface areas and volumes of prisms, pyramids, spheres, cones, and cylinders in problem situations.	Ch. 6, 10			_____			
f4	The student describes the effect on perimeter, area, and volume when length, width, or height of a three-dimensional solid is changed and applies this idea in solving problems.	Ch. 2, 3, 10, 11 GFA, Day Five Sketchpad			_____			
b1(C)	The student compares and contrasts the structure and implications of Euclidean and non-Euclidean geometries.	Ch. 7 GFA, Day Three				_____		
b3(C)	The student demonstrates what it means to prove mathematically that statements are true.	Ch. 4 GFA, Day One				_____		

**GEOMETRY  
SCOPE AND SEQUENCE**

TEKS	STUDENT EXPECTATIONS	RESOURCES	GRADING PERIOD					
			First 3 Weeks	Second 3 Weeks	Third 3 Weeks	Fourth 3 Weeks	Fifth 3 weeks	Sixth 3 Weeks
b3(E)	The student uses deductive reasoning to prove a statement.	Ch. 4, 9, 12 GFA, Day One						
e2(A)	Based on explorations and using concrete models, the student formulates and tests conjectures about the properties of parallel and perpendicular lines.	Ch. 7						
e3(B)	The student justify and applies triangle congruence relationships.	Ch. 8, 9 GFA, Day Five						
f3	In a variety of ways, the student develops, applies, and justifies triangle similarity relationships, such as right triangle ratios and Pythagorean triples.	Ch. 10, 11 GFA, Day Two & Day Five Sketchpad						
f2	The student uses ratios to solve problems involving similar figures.	Ch. 10, 11 GFA, Day Two & Day Five						
e2(C)	Based on explorations and using concrete models, the student formulates and test conjectures about the properties and attributes of circles and the lines that intersect them.	Ch. 12						
f3	In a variety of ways, the student develops, applies, and justifies triangle similarity relationships, such as right triangle ratios trigonometric ratios.	Ch. 10, 11 GFA, Day Two & Day Five						



**Mathematics Instructional Alignment Chart  
Student Expectations**

**TEKS #**    **b.1.A, b.1B**

**Grade Level:**    **8<sup>th</sup> – 9<sup>th</sup>**

**Time  
Range:**

Algebra 1	Geometry	Algebra 2
b.1C, b.1E Represent, interpret, and inferences from functional relationships.	The student develops an awareness of the structure of a mathematical system connecting definitions and logical reasoning. Recognize that mathematics is developed for a variety of purposes through the historical development of geometric systems.	
	<b>Student expectation:</b> <b>Understanding basic terms and postulates of geometry (1-2)</b> <b>Relating segments and rays to lines; recognizing parallel lines and parallel planes (1-3)</b>	

Instruction	
Strategies	Resources
Cooperative Learning	Geometry Sketchpad
Assessment	
Classroom	TAKS/Other Assessment
<ul style="list-style-type: none"> <li><input type="checkbox"/> Observation of student participation: discussion/responses;</li> <li><input type="checkbox"/> Student demonstrations: chalkboard presentation/ oral reports/ projects ;</li> <li><input type="checkbox"/> Activities: problem solving</li> <li><input type="checkbox"/> Written assessment: Quiz/Journal/Exam/Projects;</li> <li><input type="checkbox"/> Media presentations; or Technology: Applications/ Writing Programs</li> </ul>	TAKS Objectives 6 and 7
Additional Support	
Pre-AP Extensions/Activities	Other
<p><b>*Involve questions that are not necessarily drawn in the picture, i.e, pp.. 16 #31 (line TZ).</b></p> <p><b>*Show techniques in drawing 3-D figures</b></p>	NCTM: 6, 7, 8 Math TEKS toolkit <a href="http://www.tenet.edu/teks/math">www.tenet.edu/teks/math</a>





**Mathematics Instructional Alignment Chart  
Student Expectations**

TEKS #   d.2C   Grade Level:   8<sup>th</sup> – 9<sup>th</sup>   Time Range:                     

Algebra 1	Geometry	Algebra 2
c.2D Graph equations of lines given points.	Develop and use formulas including distance and midpoint.	b.1B Collect, record, organize data; make scatterplots and describe with a parent function, interpret results and make predictions to model and solve problems.
	<b>Student expectation:</b> Finding the distance between two points and the coordinates of the midpoint of a segment in a coordinate plane (1-8).	
Instruction		
Strategies	Resources	
Cooperative Learning/Group Work		
Assessment		
Classroom	TAKS/Other Assessment	
<ul style="list-style-type: none"> <li><input type="checkbox"/> Observation of student participation: discussion/responses;</li> <li><input type="checkbox"/> Student demonstrations: chalkboard presentation/ oral reports/ projects ;</li> <li><input type="checkbox"/> Activities: problem solving</li> <li><input type="checkbox"/> Written assessment: Quiz/Journal/Exam/Projects;</li> <li><input type="checkbox"/> Media presentations; or Technology: Applications/ Writing Programs</li> </ul>	TAKS Objectives 6 and 7	
Additional Support		
Pre-AP Extensions/Activities	Other	
*Solve problems involving fractions ie pp. 56, #21, #24	NCTM: 6, 7, 8 Math TEKS toolkit <a href="http://www.tenet.edu/teks/math">www.tenet.edu/teks/math</a>	

**Mathematics Instructional Alignment Chart  
Student Expectations**

TEKS # d.2B, e2A Grade Level: 8<sup>th</sup> – 9<sup>th</sup> Time Range: \_\_\_\_\_

Algebra 1	Geometry	Algebra 2
c.2A, c.2B, c.2C, c.2E, c. 2F Use graphs to interpret the meaning of slope and intercepts of linear functions, determine slope and y-intercept in applied situations.	Use slopes and equations of lines to investigate geometric relationships, including parallel lines, perpendicular lines, and special segments of triangles and other polygons. Based on explorations and using concrete models, formulate and test conjectures about the properties of parallel and perpendicular lines.	c.1A Identify and sketch parent functions.
	<b>Student expectation:</b> <b>Graphing lines in the coordinate plane and recognizing parallel and perpendicular lines by their slope (2-3).</b>	
Instruction		
Strategies	Resources	
Use technology to make inferences	TI-83	
Assessment		
Classroom	TAKS/Other Assessment	
<ul style="list-style-type: none"> <li><input type="checkbox"/> Observation of student participation: discussion/responses;</li> <li><input type="checkbox"/> Student demonstrations: chalkboard presentation/ oral reports/ projects ;</li> <li><input type="checkbox"/> Activities: problem solving</li> <li><input type="checkbox"/> Written assessment: Quiz/Journal/Exam/Projects;</li> <li><input type="checkbox"/> Media presentations; or Technology: Applications/ Writing Programs</li> </ul>	TAKS Objectives 6 and 7	
Additional Support		
Pre-AP Extensions/Activities	Other	
<p>*<math>m = \Delta y / \Delta x</math> <math>m = -A/B</math>  <b>Emphasize: slope of vertical line = undefined</b>  <b>slope of horizontal line = 0</b></p>	NCTM: 6, 7, 8 Math TEKS toolkit <a href="http://www.tenet.edu/teks/math">www.tenet.edu/teks/math</a>	







**Mathematics Instructional Alignment Chart  
Student Expectations**

TEKS #   c.1   Grade Level:   8<sup>th</sup> – 9<sup>th</sup>   Time Range:                     

Algebra 1	Geometry	Algebra 2
c.3B, c.4B Investigate methods and solve linear equations, inequalities, and systems, including using concrete models and graphs	Use numeric and geometric patterns to make generalizations about geometric properties, including properties of polygons and angle relationships in polygons.	
	<b>Student expectation:</b> <b>Finding the measure of angles of a triangle and classifying triangles (2-1).</b> <b>Classifying polygons and finding the sum of the measures of the interior and exterior angles of polygons (2-2).</b>	

Instruction	
Strategies	Resources
Teacher modeling	Geometry Sketchpad
Assessment	
Classroom	TAKS/Other Assessment
<ul style="list-style-type: none"> <li><input type="checkbox"/> Observation of student participation: discussion/responses;</li> <li><input type="checkbox"/> Student demonstrations: chalkboard presentation/ oral reports/ projects ;</li> <li><input type="checkbox"/> Activities: problem solving</li> <li><input type="checkbox"/> Written assessment: Quiz/Journal/Exam/Projects;</li> <li><input type="checkbox"/> Media presentations; or Technology: Applications/ Writing Programs</li> </ul>	TAKS Objectives 6 and 7
Additional Support	
Pre-AP Extensions/Activities	Other
<b>PH, Pp. 72, #25, pp. 73 #27,#28</b> <b>Pp. 80, #9, #26</b>	NCTM: 6, 7, 8 Math TEKS toolkit <a href="http://www.tenet.edu/teks/math">www.tenet.edu/teks/math</a>



**Mathematics Instructional Alignment Chart  
Student Expectations**

TEKS # e.2A, e.2B      Grade Level: 8<sup>th</sup> – 9<sup>th</sup>      Time Range: \_\_\_\_\_

Algebra 1	Geometry	Algebra 2
	Formulate and test conjectures about geometric properties using explorations, patterns, and concrete models.	
	<b>Student expectation: Finding relationships among angles, sides, and diagonals of parallelograms (9-1, 9-2).</b>	

Instruction	
Strategies	Resources
Relate to parallel lines cut by a transversal	Geometry Sketchpad
Assessment	
Classroom	TAKS/Other Assessment
<ul style="list-style-type: none"> <li><input type="checkbox"/> Observation of student participation: discussion/responses;</li> <li><input type="checkbox"/> Student demonstrations: chalkboard presentation/ oral reports/ projects ;</li> <li><input type="checkbox"/> Activities: problem solving</li> <li><input type="checkbox"/> Written assessment: Quiz/Journal/Exam/Projects;</li> <li><input type="checkbox"/> Media presentations; or Technology: Applications/ Writing Programs</li> </ul>	TAKS Objectives 6 and 7
Additional Support	
Pre-AP Extensions/Activities	Other
PH, Pp. 452, #19-#24 Pp. 458, #18-#21	NCTM: 6, 7, 8 Math TEKS toolkit <a href="http://www.tenet.edu/teks/math">www.tenet.edu/teks/math</a>

**Mathematics Instructional Alignment Chart  
Student Expectations**

TEKS # e.2B, e.3A      Grade Level: 8<sup>th</sup> – 9<sup>th</sup>      Time Range: \_\_\_\_\_

Algebra 1	Geometry	Algebra 2
	Formulate and test conjectures about geometric properties using explorations, patterns, and concrete models.	
	<b>Student expectation:</b>	
	<b>Finding properties of rectangles, rhombuses, squares, trapezoids, and kites (9-3, 9-4).</b>	
Instruction		
Strategies		Resources
Cooperative Learning/Group work		Geometry Sketchpad
Assessment		
Classroom		TAKS/Other Assessment
<ul style="list-style-type: none"> <li><input type="checkbox"/> Observation of student participation: discussion/responses;</li> <li><input type="checkbox"/> Student demonstrations: chalkboard presentation/ oral reports/ projects ;</li> <li><input type="checkbox"/> Activities: problem solving</li> <li><input type="checkbox"/> Written assessment: Quiz/Journal/Exam/Projects;</li> <li><input type="checkbox"/> Media presentations; or Technology: Applications/ Writing Programs</li> </ul>		TAKS Objectives 6 and 7
Additional Support		
Pre-AP Extensions/Activities		Other
<b>HP, Pp. 466, #12-#15, #17, #22-#25</b> <b>Pp. 474, #12, #14-#16</b>		NCTM: 6, 7, 8 <b>Math TEKS toolkit</b> <a href="http://www.tenet.edu/teks/math">www.tenet.edu/teks/math</a>

**Mathematics Instructional Alignment Chart  
Student Expectations**

TEKS # f.1, f.2      Grade Level: 8<sup>th</sup> – 9<sup>th</sup>      Time Range: \_\_\_\_\_

Algebra 1	Geometry	Algebra 2
c.2A, c.2G Develop slope as a rate of change; relate direct variation to linear functions and solve problems involving proportional change.	Use similarity and congruence transformations to explore and justify conjectures about geometric figures. Use ratios to solve problems involving similar figures.	e.6 Use direct and inverse variation models
	<b>Student expectation:</b> <b>Measuring congruent and similar figures and using properties of congruence and similarity (2-6)</b>	
Instruction		
Strategies	Resources	
Use ratios and proportions	TI-83	
Assessment		
Classroom	TAKS/Other Assessment	
<ul style="list-style-type: none"> <li>❑ Observation of student participation: discussion/responses;</li> <li>❑ Student demonstrations: chalkboard presentation/ oral reports/ projects ;</li> <li>❑ Activities: problem solving</li> <li>❑ Written assessment: Quiz/Journal/Exam/Projects;</li> <li>❑ Media presentations; or Technology: Applications/ Writing Programs</li> </ul>	TAKS Objectives 6 and 7	
Additional Support		
Pre-AP Extensions/Activities	Other	
HP, Pp. 106 #38, pp. 107 #42	NCTM: 6, 7, 8 Math TEKS toolkit <a href="http://www.tenet.edu/teks/math">www.tenet.edu/teks/math</a>	

**Mathematics Instructional Alignment Chart  
Student Expectations**

TEKS #   d.1A d.1C   Grade Level:   8<sup>th</sup> – 9<sup>th</sup>   Time Range:                     

Algebra 1	Geometry	Algebra 2
	Describe and draw cross sections and other slices of three-dimensional objects. Use top, front, side, and corner views of 3-D objects to create accurate and complete representations and solve problems.	
	<b>Student expectation:</b> <b>Drawing isometric and orthographic views of objects (2-7).</b>	

Instruction	
Strategies	Resources
Hands-on activities	Three-D solids (prisms and pyramids)
Assessment	
Classroom	TAKS/Other Assessment
<ul style="list-style-type: none"> <li><input type="checkbox"/> Observation of student participation: discussion/responses;</li> <li><input type="checkbox"/> Student demonstrations: chalkboard presentation/ oral reports/ projects ;</li> <li><input type="checkbox"/> Activities: problem solving</li> <li><input type="checkbox"/> Written assessment: Quiz/Journal/Exam/Projects;</li> <li><input type="checkbox"/> Media presentations; or Technology: Applications/ Writing Programs</li> </ul>	TAKS Objectives 6 and 7
Additional Support	
Pre-AP Extensions/Activities	Other
<b>PH, Pp. 114, #12-15, #21-#24</b>	NCTM: 6, 7, 8 Math TEKS toolkit <a href="http://www.tenet.edu/teks/math">www.tenet.edu/teks/math</a>

**Mathematics Instructional Alignment Chart  
Student Expectations**

TEKS # e.1A Grade Level: 8<sup>th</sup> – 9<sup>th</sup> Time Range: \_\_\_\_\_

Algebra 1	Geometry	Algebra 2
	Find areas of polygons and composite figures.	
	<b>Student expectation:</b>	
	Finding area and perimeter of squares, rectangles, parallelograms, and triangles (5-1, 5-2).	
Instruction		
Strategies	Resources	
Teacher observation/Question & Answer session	Formula chart; TI-83	
Assessment		
Classroom	TAKS/Other Assessment	
<ul style="list-style-type: none"> <li><input type="checkbox"/> Observation of student participation: discussion/responses;</li> <li><input type="checkbox"/> Student demonstrations: chalkboard presentation/ oral reports/ projects ;</li> <li><input type="checkbox"/> Activities: problem solving</li> <li><input type="checkbox"/> Written assessment: Quiz/Journal/Exam/Projects;</li> <li><input type="checkbox"/> Media presentations; or Technology: Applications/ Writing Programs</li> </ul>	TAKS Objectives 6 and 7	
Additional Support		
Pre-AP Extensions/Activities	Other	
PH, Pp. 246 #16-#19, pp. 247 #35-#38 Pp. 252 #11, #14, pp. 253 #27, #30	NCTM: 6, 7, 8 Math TEKS toolkit <a href="http://www.tenet.edu/teks/math">www.tenet.edu/teks/math</a>	

**Mathematics Instructional Alignment Chart  
Student Expectations**

TEKS # e.1C, f.3, c.3      Grade Level: 8<sup>th</sup> – 9<sup>th</sup>      Time Range: \_\_\_\_\_

Algebra I	Geometry	Algebra 2
b.3A Use symbols to represent unknowns and variables.	Develop, use, and extend the Pythagorean Theorem. Develop, apply, and justify triangle ratios and Pythagorean triples in a variety of ways. Identify and apply patterns from right triangles to solve problems, including special right triangles (45°-45°-90° and 30°-60°-90°) and triangles whose sides are Pythagorean triples.	
	<b>Student expectation:</b>	
	<b>Use the Pythagorean Theorem and its converse (5-3). Use the properties of 45°-45°-90° and 30°-60°-90° triangles (5-3, 5-4).</b>	
Instruction		
Strategies	Resources	
Use $1 - 1 - \sqrt{2}$ and $1 - 2 - \sqrt{3}$ ratios	TI-83	
Assessment		
Classroom	TAKS/Other Assessment	
<ul style="list-style-type: none"> <li><input type="checkbox"/> Observation of student participation: discussion/responses;</li> <li><input type="checkbox"/> Student demonstrations: chalkboard presentation/ oral reports/ projects ;</li> <li><input type="checkbox"/> Activities: problem solving</li> <li><input type="checkbox"/> Written assessment: Quiz/Journal/Exam/Projects;</li> <li><input type="checkbox"/> Media presentations; or Technology: Applications/ Writing Programs</li> </ul>	TAKS Objectives 6 and 7	
Additional Support		
Pre-AP Extensions/Activities	Other	
PH, Pp. 260 #22, #36, pp. 262 #58 Pp. 267 #20-#23	NCTM: 6, 7, 8 Math TEKS toolkit <a href="http://www.tenet.edu/teks/math">www.tenet.edu/teks/math</a>	

**Mathematics Instructional Alignment Chart  
Student Expectations**

TEKS # e.1A, e.1C, Grade Level: 8<sup>th</sup> – 9<sup>th</sup> Time Range: \_\_\_\_\_

Algebra 1	Geometry	Algebra 2
b.3A Use symbols to represent unknowns and variables.	Find the areas of regular polygons. Develop, use, and extend the Pythagorean Theorem.	
	<b>Student expectation:</b> <b>Finding the areas of trapezoids and regular polygons (5-5, 5-6)</b>	
Instruction		
Strategies		Resources
Teacher observation		Formula chart; TI-83
Assessment		
Classroom		TAKS/Other Assessment
<ul style="list-style-type: none"> <li><input type="checkbox"/> Observation of student participation: discussion/responses;</li> <li><input type="checkbox"/> Student demonstrations: chalkboard presentation/ oral reports/ projects ;</li> <li><input type="checkbox"/> Activities: problem solving</li> <li><input type="checkbox"/> Written assessment: Quiz/Journal/Exam/Projects;</li> <li><input type="checkbox"/> Media presentations; or Technology: Applications/ Writing Programs</li> </ul>		TAKS Objectives 6 and 7
Additional Support		
Pre-AP Extensions/Activities		Other
PH, Pp. 272 #17-#21, pp. 277 #19, #20 Pp. 278 #23-#26		NCTM: 6, 7, 8 Math TEKS toolkit <a href="http://www.tenet.edu/teks/math">www.tenet.edu/teks/math</a>

**Mathematics Instructional Alignment Chart  
Student Expectations**

TEKS #   d.1B   Grade Level:   8<sup>th</sup> – 9<sup>th</sup>   Time Range:                     

Algebra 1	Geometry	Algebra 2
	Use nets to represent and construct three-dimensional objects.	
	<b>Student expectation:</b> <b>Recognize nets of various space figures (6-1)</b>	

Instruction	
Strategies	Resources
Hands-on activities	Construction of polyhedrons
Assessment	
Classroom	TAKS/Other Assessment
<ul style="list-style-type: none"> <li><input type="checkbox"/> Observation of student participation: discussion/responses;</li> <li><input type="checkbox"/> Student demonstrations: chalkboard presentation/ oral reports/ projects ;</li> <li><input type="checkbox"/> Activities: problem solving</li> <li><input type="checkbox"/> Written assessment: Quiz/Journal/Exam/Projects;</li> <li><input type="checkbox"/> Media presentations; or Technology: Applications/ Writing Programs</li> </ul>	TAKS Objectives 6 and 7
Additional Support	
Pre-AP Extensions/Activities	Other
PH, Pp. 305, # 17	NCTM: 6, 7, 8 Math TEKS toolkit <a href="http://www.tenet.edu/teks/math">www.tenet.edu/teks/math</a>

**Mathematics Instructional Alignment Chart  
Student Expectations**

TEKS # e.1D, e.2D, f.4 Grade Level: 8<sup>th</sup> – 9<sup>th</sup> Time Range: \_\_\_\_\_

Algebra 1	Geometry	Algebra 2
b.3A Use symbols to represent unknowns and variables.	Find the surface areas of prisms, pyramids, cones, and cylinders. Analyze the characteristics of three-dimensional figures and their component parts. Describe the effect on perimeter and area when length, width, or height of a 3-D solid is changed and applies this idea in solving problems.	
	<b>Student expectation:</b> <b>Investigating the surface areas and lateral areas of prisms, cylinders, pyramids, and cones (6-2, 6-3)</b>	

Instruction	
Strategies	Resources
Cooperative Learning; Q & A session	Formula chart; TI-83
Assessment	
Classroom	TAKS/Other Assessment
<ul style="list-style-type: none"> <li><input type="checkbox"/> Observation of student participation: discussion/responses;</li> <li><input type="checkbox"/> Student demonstrations: chalkboard presentation/ oral reports/ projects ;</li> <li><input type="checkbox"/> Activities: problem solving</li> <li><input type="checkbox"/> Written assessment: Quiz/Journal/Exam/Projects;</li> <li><input type="checkbox"/> Media presentations; or Technology: Applications/ Writing Programs</li> </ul>	TAKS Objectives 6 and 7
Additional Support	
Pre-AP Extensions/Activities	Other
PH, Pp. 313, #20-#25 Pp.320, #17-#24, #26	NCTM: 6, 7, 8 Math TEKS toolkit <a href="http://www.tenet.edu/teks/math">www.tenet.edu/teks/math</a>

**Mathematics Instructional Alignment Chart  
Student Expectations**

TEKS # e.1D, f.4 Grade Level: 8<sup>th</sup> – 9<sup>th</sup> Time Range: \_\_\_\_\_

Algebra 1	Geometry	Algebra 2
b.3A Use symbols to represent unknowns and variables.	Find volumes of prisms, pyramids, spheres, cones, and cylinders in problem situations. Describe the effect on volume when length, width, or height of a 3-D solid is changed and applies this idea in solving problems.	
	<b>Student expectation:</b> <b>Finding the volumes of prisms, cylinders, pyramids, cones, and spheres (6-4, 6-5, 6-6)</b>	

Instruction	
Strategies	Resources
Cooperative Learning; Q & A session	Formula chart; TI-83
Assessment	
Classroom	TAKS/Other Assessment
<ul style="list-style-type: none"> <li><input type="checkbox"/> Observation of student participation: discussion/responses;</li> <li><input type="checkbox"/> Student demonstrations: chalkboard presentation/ oral reports/ projects ;</li> <li><input type="checkbox"/> Activities: problem solving</li> <li><input type="checkbox"/> Written assessment: Quiz/Journal/Exam/Projects;</li> <li><input type="checkbox"/> Media presentations; or Technology: Applications/ Writing Programs</li> </ul>	TAKS Objectives 6 and 7
Additional Support	
Pre-AP Extensions/Activities	Other
PH, Pp. 328, #21-#23 Pp. 334, #9, #14, #17, #22	NCTM: 6, 7, 8 Math TEKS toolkit <a href="http://www.tenet.edu/teks/math">www.tenet.edu/teks/math</a>

**Mathematics Instructional Alignment Chart  
Student Expectations**

TEKS # e.1A, e.1D, f.4      Grade Level: 8<sup>th</sup> – 9<sup>th</sup>      Time Range: \_\_\_\_\_

Algebra 1	Geometry	Algebra 2
b.3A Use symbols to represent unknowns and variables.	Find areas of composite figures. Find surface areas and volumes of prisms, pyramids, spheres, cones, and cylinders in problem situations. Describe the effect on perimeter, area, and volume when length, width, or height of a 3-D solid is changed and applies this idea in solving problems.	
	<b>Student expectation:</b> <b>Recognizing composite space figures, which combine two or more simple figures (6-7)</b>	

Instruction	
Strategies	Resources
Check for understanding	Formula chart; TI-83
Assessment	
Classroom	TAKS/Other Assessment
<ul style="list-style-type: none"> <li><input type="checkbox"/> Observation of student participation: discussion/responses;</li> <li><input type="checkbox"/> Student demonstrations: chalkboard presentation/ oral reports/ projects ;</li> <li><input type="checkbox"/> Activities: problem solving</li> <li><input type="checkbox"/> Written assessment: Quiz/Journal/Exam/Projects;</li> <li><input type="checkbox"/> Media presentations; or Technology: Applications/ Writing Programs</li> </ul>	TAKS Objectives 6 and 7
Additional Support	
Pre-AP Extensions/Activities	Other
<b>PH, Pp. 346, #13, #14, #16, #17</b>	NCTM: 6, 7, 8 Math TEKS toolkit <a href="http://www.tenet.edu/teks/math">www.tenet.edu/teks/math</a>





**Mathematics Instructional Alignment Chart  
Student Expectations**

TEKS # e.2B Grade Level: 8<sup>th</sup> – 9<sup>th</sup> Time Range: \_\_\_\_\_

Algebra 1	Geometry	Algebra 2
	Based on explorations and using concrete models, formulate and test conjectures about the properties and attributes of polygons and their component parts.	

<b>Student expectation:</b>
<b>Using inequalities involving triangle side lengths and angle measures to solve problems (4-6)</b>

Instruction	
Strategies	Resources
Make inferences about changes in triangle components	
Assessment	
Classroom	TAKS/Other Assessment
<ul style="list-style-type: none"> <li><input type="checkbox"/> Observation of student participation: discussion/responses;</li> <li><input type="checkbox"/> Student demonstrations: chalkboard presentation/ oral reports/ projects ;</li> <li><input type="checkbox"/> Activities: problem solving</li> <li><input type="checkbox"/> Written assessment: Quiz/Journal/Exam/Projects;</li> <li><input type="checkbox"/> Media presentations; or Technology: Applications/ Writing Programs</li> </ul>	TAKS Objectives 6 and 7
Additional Support	
Pre-AP Extensions/Activities	Other
<b>PH, Pp. 217, #28-#30</b>	NCTM: 6, 7, 8 Math TEKS toolkit <a href="http://www.tenet.edu/teks/math">www.tenet.edu/teks/math</a>

**Mathematics Instructional Alignment Chart  
Student Expectations**

TEKS # e.2C Grade Level: 8<sup>th</sup> – 9<sup>th</sup> Time Range: \_\_\_\_\_

Algebra 1	Geometry	Algebra 2
	Based on explorations and using concrete models, formulate and test conjectures about the properties and attributes of circles and the lines that intersect them.	
	<b>Student expectation:</b>	
	<b>Identifying properties of perpendicular bisectors, and angle bisectors, altitudes, and medians of a triangle (4-8)</b>	
Instruction		
Strategies	Resources	
Hands-on activities; Constructions	Geometry Sketchpad; TI-89; TI-92	
Assessment		
Classroom	TAKS/Other Assessment	
<ul style="list-style-type: none"> <li>❑ Observation of student participation: discussion/responses;</li> <li>❑ Student demonstrations: chalkboard presentation/ oral reports/ projects ;</li> <li>❑ Activities: problem solving</li> <li>❑ Written assessment: Quiz/Journal/Exam/Projects;</li> <li>❑ Media presentations; or Technology: Applications/ Writing Programs</li> </ul>	TAKS Objectives 6 and 7	
Additional Support		
Pre-AP Extensions/Activities	Other	
PH, Pp. 231, #15 pp. 232, #17	NCTM: 6, 7, 8 Math TEKS toolkit <a href="http://www.tenet.edu/teks/math">www.tenet.edu/teks/math</a>	

**Mathematics Instructional Alignment Chart  
Student Expectations**

TEKS #   e.3B   Grade Level:   8<sup>th</sup> – 9<sup>th</sup>   Time Range:                     

Algebra 1	Geometry	Algebra 2
c.2G Relate direct variation to linear functions and solve problems involving proportional change.	Justify and apply triangle congruence relationships.	e.6 Use direct and inverse variation functions as models to make predictions in problem situations.
	<b>Student expectation:</b> <b>Proving two triangles congruent by using the SSS, SAS, ASA, AAS, and HL (8-1, 8-2, 8-3).</b>	

Instruction	
Strategies	Resources
Q & A session	TI-83
Assessment	
Classroom	TAKS/Other Assessment
<ul style="list-style-type: none"> <li><input type="checkbox"/> Observation of student participation: discussion/responses;</li> <li><input type="checkbox"/> Student demonstrations: chalkboard presentation/ oral reports/ projects ;</li> <li><input type="checkbox"/> Activities: problem solving</li> <li><input type="checkbox"/> Written assessment: Quiz/Journal/Exam/Projects;</li> <li><input type="checkbox"/> Media presentations; or Technology: Applications/ Writing Programs</li> </ul>	TAKS Objectives 6 and 7
Additional Support	
Pre-AP Extensions/Activities	Other
<b>PH, Pp. 410, #16 pp. 411, #19,#20 Pp. 418 #18-#21 Pp. 423 #12-#13</b>	NCTM: 6, 7, 8 Math TEKS toolkit <a href="http://www.tenet.edu/teks/math">www.tenet.edu/teks/math</a>

**Mathematics Instructional Alignment Chart  
Student Expectations**

TEKS # f.1, f.2, f.3      Grade Level: 8<sup>th</sup> – 9<sup>th</sup>      Time Range: \_\_\_\_\_

Algebra 1	Geometry	Algebra 2
c.2G Relate direct variation to linear functions and solve problems involving proportional change.	Use similarity properties to explore and justify conjectures. Use ratios to solve problems involving similar figures. In a variety of ways, develop, apply, and justify triangle similarity relationships.	e.6 Use direct and inverse variation functions as models to make predictions in problem situations.
	<b>Student expectation:</b> <b>Finding how to use ratio and proportion with similar polygons and proving two triangles similar by using the AA Postulate and the SAS and SSS Theorems (10-1, 10-2).</b>	
Instruction		
Strategies	Resources	
Check for understanding	TI-83	
Assessment		
Classroom	TAKS/Other Assessment	
<ul style="list-style-type: none"> <li><input type="checkbox"/> Observation of student participation: discussion/responses;</li> <li><input type="checkbox"/> Student demonstrations: chalkboard presentation/ oral reports/ projects ;</li> <li><input type="checkbox"/> Activities: problem solving</li> <li><input type="checkbox"/> Written assessment: Quiz/Journal/Exam/Projects;</li> <li><input type="checkbox"/> Media presentations; or Technology: Applications/ Writing Programs</li> </ul>	TAKS Objectives 6 and 7	
Additional Support		
Pre-AP Extensions/Activities	Other	
PH, Pp.. 501, #31-#33, #40 Pp.. 508, #20-#25	NCTM: 6, 7, 8 Math TEKS toolkit <a href="http://www.tenet.edu/teks/math">www.tenet.edu/teks/math</a>	

**Mathematics Instructional Alignment Chart  
Student Expectations**

TEKS # f.1, f.2, f.3 Grade Level: 8<sup>th</sup> – 9<sup>th</sup> Time Range: \_\_\_\_\_

Algebra 1	Geometry	Algebra 2
c.2G Relate direct variation to linear functions and solve problems involving proportional change.	Use similarity properties to explore and justify conjectures. Use ratios to solve problems involving similar figures. In a variety of ways, develop, apply, and justify triangle similarity relationships.	e.6 Use direct and inverse variation functions as models to make predictions in problem situations.
	<b>Student expectation:</b> <b>Finding relationships among the lengths of the sides of a triangle and of a right triangle and the altitude to the hypotenuse (10-3, 10-4)</b>	

Instruction	
Strategies	Resources
Use ratios and proportions	TI-83
Assessment	
Classroom	TAKS/Other Assessment
<ul style="list-style-type: none"> <li><input type="checkbox"/> Observation of student participation: discussion/responses;</li> <li><input type="checkbox"/> Student demonstrations: chalkboard presentation/ oral reports/ projects ;</li> <li><input type="checkbox"/> Activities: problem solving</li> <li><input type="checkbox"/> Written assessment: Quiz/Journal/Exam/Projects;</li> <li><input type="checkbox"/> Media presentations; or Technology: Applications/ Writing Programs</li> </ul>	TAKS Objectives 6 and 7
Additional Support	
Pre-AP Extensions/Activities	Other
PH, Pp.. 515, #24-#31 Pp.. 521, #19-#22	NCTM: 6, 7, 8 Math TEKS toolkit <a href="http://www.tenet.edu/teks/math">www.tenet.edu/teks/math</a>

**Mathematics Instructional Alignment Chart  
Student Expectations**

TEKS # f.1, f.2, f.3      Grade Level: 8<sup>th</sup> – 9<sup>th</sup>      Time Range: \_\_\_\_\_

Algebra 1	Geometry	Algebra 2
c2G –The student relates direct variation to linear functions and solves problems involving proportional change	Use similarity properties to explore and justify conjectures. Use ratios to solve problems involving similar figures. In a variety of ways, develop, apply, and justify triangle similarity relationships.	e.6 Use direct and inverse variation functions as models to make predictions in problem situations.
	<b>Student expectation:</b> <b>Finding the relationships between the similarity ratio and the perimeters, areas, and volumes of similar solids (10-5, 10-6).</b>	
Instruction		
Strategies	Resources	
Use ratios and proportions	TI-83	
Assessment		
Classroom	TAKS/Other Assessment	
<ul style="list-style-type: none"> <li><input type="checkbox"/> Observation of student participation: discussion/responses;</li> <li><input type="checkbox"/> Student demonstrations: chalkboard presentation/ oral reports/ projects ;</li> <li><input type="checkbox"/> Activities: problem solving</li> <li><input type="checkbox"/> Written assessment: Quiz/Journal/Exam/Projects;</li> <li><input type="checkbox"/> Media presentations; or Technology: Applications/ Writing Programs</li> </ul>	TAKS Objectives 6 and 7	
Additional Support		
Pre-AP Extensions/Activities	Other	
PH, Pp.. 528, #18-#20 Pp.. 534, #10-14, #16	NCTM: 6, 7, 8 Math TEKS toolkit <a href="http://www.tenet.edu/teks/math">www.tenet.edu/teks/math</a>	

**Mathematics Instructional Alignment Chart  
Student Expectations**

TEKS # f.3 Grade Level: 8<sup>th</sup> – 9<sup>th</sup> Time Range: \_\_\_\_\_

Algebra 1	Geometry	Algebra 2
	In a variety of ways, develop, apply, and justify triangle similarity relationships, such as trigonometric ratios.	
	<b>Student expectation:</b> Calculating sine, cosine, and tangent of acute angles and right triangles (11-1, 11-2).	

Instruction	
Strategies	Resources
Use real-life examples using right triangles	TI-83
Assessment	
Classroom	TAKS/Other Assessment
<ul style="list-style-type: none"> <li><input type="checkbox"/> Observation of student participation: discussion/responses;</li> <li><input type="checkbox"/> Student demonstrations: chalkboard presentation/ oral reports/ projects ;</li> <li><input type="checkbox"/> Activities: problem solving</li> <li><input type="checkbox"/> Written assessment: Quiz/Journal/Exam/Projects;</li> <li><input type="checkbox"/> Media presentations; or Technology: Applications/ Writing Programs</li> </ul>	TAKS Objectives 6 and 7
Additional Support	
Pre-AP Extensions/Activities	Other
PH, Pp.. 548, #26-#29 Pp.. 554, #15, #16 Pp.. 555, #20-#23	NCTM: 6, 7, 8 Math TEKS toolkit <a href="http://www.tenet.edu/teks/math">www.tenet.edu/teks/math</a>



**Mathematics Instructional Alignment Chart  
Student Expectations**

TEKS # e.1B Grade Level: 8<sup>th</sup> – 9<sup>th</sup> Time Range: \_\_\_\_\_

Algebra 1	Geometry	Algebra 2
c.2G Relate direct variation to linear functions and solve problems involving proportional change.	Find arc lengths of circles using proportional reasoning.	e.6 Use direct and inverse variation functions as models to make predictions in problem situations.
	<b>Student expectation: Measuring central angles and arcs of circles (2-5).</b>	

Instruction	
Strategies	Resources
Cooperative Learning	Geometry Sketchpad
Assessment	
Classroom	TAKS/Other Assessment
<ul style="list-style-type: none"> <li><input type="checkbox"/> Observation of student participation: discussion/responses;</li> <li><input type="checkbox"/> Student demonstrations: chalkboard presentation/ oral reports/ projects ;</li> <li><input type="checkbox"/> Activities: problem solving</li> <li><input type="checkbox"/> Written assessment: Quiz/Journal/Exam/Projects;</li> <li><input type="checkbox"/> Media presentations; or Technology: Applications/ Writing Programs</li> </ul>	TAKS Objectives 6 and 7
Additional Support	
Pre-AP Extensions/Activities	Other
PH, Pp. 99 #28-36 Pp. 100 #40-46	NCTM: 6, 7, 8 Math TEKS toolkit <a href="http://www.tenet.edu/teks/math">www.tenet.edu/teks/math</a>

**Mathematics Instructional Alignment Chart  
Student Expectations**

TEKS # e.1b Grade Level: 8<sup>th</sup> – 9<sup>th</sup> Time Range: \_\_\_\_\_

Algebra 1	Geometry	Algebra 2
c.2G Relate direct variation to linear functions and solve problems involving proportional change.	Find areas of sectors and arc lengths of circles using proportional reasoning.	e.6 Use direct and inverse variation functions as models to make predictions in problem situations.
	<b>Student expectation:</b> <b>Finding the circumference of a circle and the length of an arc and computing the areas of circles and sectors (5-7, 5-8).</b>	

Instruction	
Strategies	Resources
Cooperative Learning	Geometry Sketchpad
Assessment	
Classroom	TAKS/Other Assessment
<ul style="list-style-type: none"> <li><input type="checkbox"/> Observation of student participation: discussion/responses;</li> <li><input type="checkbox"/> Student demonstrations: chalkboard presentation/ oral reports/ projects ;</li> <li><input type="checkbox"/> Activities: problem solving</li> <li><input type="checkbox"/> Written assessment: Quiz/Journal/Exam/Projects;</li> <li><input type="checkbox"/> Media presentations; or Technology: Applications/ Writing Programs</li> </ul>	TAKS Objectives 6 and 7
Additional Support	
Pre-AP Extensions/Activities	Other
PH, Pp. 452, #19-#24 Pp. 458, #18-#21	NCTM: 6, 7, 8 Math TEKS toolkit <a href="http://www.tenet.edu/teks/math">www.tenet.edu/teks/math</a>







**Mathematics Instructional Alignment Chart  
Student Expectations**

TEKS #   b2B, c1        Grade Level:   8<sup>th</sup> – 9<sup>th</sup>        Time Range:                   

Algebra 1	Geometry	Algebra 2
	Make and verify conjectures about angles choosing from a variety of approaches, such as coordinate, transformational, or axiomatic. Use numeric and geometric patterns to make generalizations about geometric properties and angle relationships in circles.	
	<b>Student expectation:</b>	
	<b>Finding the lengths of segments associated with circles (12-6).</b>	

Instruction	
Strategies	Resources
Cooperative Learning	Geometry Sketchpad
Assessment	
Classroom	TAKS/Other Assessment
<ul style="list-style-type: none"> <li><input type="checkbox"/> Observation of student participation: discussion/responses;</li> <li><input type="checkbox"/> Student demonstrations: chalkboard presentation/ oral reports/ projects ;</li> <li><input type="checkbox"/> Activities: problem solving</li> <li><input type="checkbox"/> Written assessment: Quiz/Journal/Exam/Projects;</li> <li><input type="checkbox"/> Media presentations; or Technology: Applications/ Writing Programs</li> </ul>	TAKS Objectives 6 and 7
Additional Support	
Pre-AP Extensions/Activities	Other
PH, Pp. 624 #11-13 Pp. 625 #18-20	NCTM: 6, 7, 8 Math TEKS toolkit <a href="http://www.tenet.edu/teks/math">www.tenet.edu/teks/math</a>

**Mathematics Instructional Alignment Chart  
Student Expectations**

TEKS # c2, e3A      Grade Level: 8<sup>th</sup> – 9<sup>th</sup>      Time Range: \_\_\_\_\_

Algebra 1	Geometry	Algebra 2
b.2A Identify and sketch the general forms of linear ( $y=x$ ) and quadratic ( $y=x^2$ ) parent functions.	Use properties of transformations and their compositions to make connections between mathematics and the real world in applications, such as tessellations or fractals. Use congruence transformations to make conjectures and justify properties of geometric figures.	c.2C Identify symmetries from graphs of conic sections.
	<b>Student expectation:</b> <b>Identifying isometries and locating reflection, translation, and rotation images of figures (3-1, 3-2, and 3-3)</b>	
Instruction		
Strategies	Resources	
Hands-on activities	Geometry Sketchpad	
Assessment		
Classroom	TAKS/Other Assessment	
<ul style="list-style-type: none"> <li><input type="checkbox"/> Observation of student participation: discussion/responses;</li> <li><input type="checkbox"/> Student demonstrations: chalkboard presentation/ oral reports/ projects ;</li> <li><input type="checkbox"/> Activities: problem solving</li> <li><input type="checkbox"/> Written assessment: Quiz/Journal/Exam/Projects;</li> <li><input type="checkbox"/> Media presentations; or Technology: Applications/ Writing Programs</li> </ul>	TAKS Objectives 6 and 7	
Additional Support		
Pre-AP Extensions/Activities	Other	
<b>PH, Pp. 128 # 10-17</b> <b>Pp. 135 # 13-15, #17-19</b> <b>Pp. 142 #18,, 28-30</b>	NCTM: 6, 7, 8 <b>Math TEKS toolkit</b> <a href="http://www.tenet.edu/teks/math">www.tenet.edu/teks/math</a>	

**Mathematics Instructional Alignment Chart  
Student Expectations**

TEKS # c2, e3A      Grade Level: 8<sup>th</sup> – 9<sup>th</sup>      Time Range: \_\_\_\_\_

Algebra 1	Geometry	Algebra 2
b.2A Identify and sketch the general forms of linear ( $y=x$ ) and quadratic ( $y=x^2$ ) parent functions.	Use properties of transformations and their compositions to make connections between mathematics and the real world in applications, such as tessellations or fractals. Use congruence transformations to make conjectures and justify properties of geometric figures.	c.2C Identify symmetries from graphs of conic sections.
	<b>Student expectation:</b> <b>Identifying types of symmetry in figures, figures that tessellate, and symmetry of tessellations. Locating dilation of images of figures (3-5, 3-6, 3-7).</b>	
Instruction		
Strategies	Resources	
Hands-on activities	Geometry Sketchpad	
Assessment		
Classroom	TAKS/Other Assessment	
<ul style="list-style-type: none"> <li><input type="checkbox"/> Observation of student participation: discussion/responses;</li> <li><input type="checkbox"/> Student demonstrations: chalkboard presentation/ oral reports/ projects ;</li> <li><input type="checkbox"/> Activities: problem solving</li> <li><input type="checkbox"/> Written assessment: Quiz/Journal/Exam/Projects;</li> <li><input type="checkbox"/> Media presentations; or Technology: Applications/ Writing Programs</li> </ul>	TAKS Objectives 6 and 7	
Additional Support		
Pre-AP Extensions/Activities	Other	
PH, Pp. 156 #19-28 Pp. 164 #13-19 Pp. 120 # 20-21	NCTM: 6, 7, 8 Math TEKS toolkit <a href="http://www.tenet.edu/teks/math">www.tenet.edu/teks/math</a>	