A Student and Parent Guide To Help Prepare Students for the Geometry End-of-Course (EOC) Exam

EDUCATIONAL SERVICE DISTRICT 113
TEACHING AND LEARNING

2/25/11

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General Notes

This document is not state (OSPI)-created or approved.

This is not an exhaustive sampling of EOC Exam test items.

The EOC Exams will take place during the last three weeks of the school year.

This is intended to be a guide to give students an idea of what their level of understanding is for each of the Geometry performance expectations (PEs) at the beginning of the school year and a month before the EOC Exam.

The PEs will be assessed in multiple-choice (MC), completion (CP), and short answer (SA) formats. MC and CP items are worth one point each. SA items are worth two points.

Calculators will be allowed on the Geometry End-of-Course (EOC) exam.

Knowing the following PEs and being able to answer problems in a contextual, story problem situation (look at the core processes PEs) *should* lead to success on the EOC exam.

Students are expected to know all content, vocabulary, and processes from previous grade levels. These items may be assessed on the Algebra 1 EOC Exam.

Students should still study the items not assessed on the EOC Exam since those items will be incorporated into future math courses.

For more information about the EOC Exams, go to
http://www.k12.wa.us/mathematics/pubdocs/ItemSpec_G.pdf

For more information about Washington's math learning standards, go to
https://www.k12.wa.us/Mathematics/Standards/K-12MathematicsStandards-July2008.pdf

For questions about this document, contact Katelyn Hubert at khubert@esd113.k12.wa.us.

Vocabulary first used in the Geometry End-of-Course Exam

Term	Where is this in my textbook?	Check the box once you know it.
Adjacent		
Altitude		
Angle of depression		
Angle of elevation		
Angle, exterior		
Angle, inscribed		
Angles, alternate exterior		
Angles, alternate interior		
Apothem		
Arc length		
Bisect		
Bisector		
Chord		
Circumscribed		
Collinear		
Compass		
Construction (geometric)		
Contrapositive		
Converse		
Coplanar		
Cosine/cos (trigonometry)		
Counterexample		
Disprove		
Endpoint		
Equidistant		
Geometric construction		
Inscribed		
Invalid		
Inverse (transformation)		
Inverse (valid proposition)		
Lateral (surface area)		
Median (triangle)		
Midpoint		
N-fold reflectional symmetry		
N-fold rotational symmetry		
Noncollinear		
Oblique		
Opposite		
Plane		
Postulate		
Proof		
Proposition		
Prove		
Radius of a regular polygon		
Ray		

Scale factor		
Secant		
Sector (circle)		
Sine/sin (trigonometry)		
Skew		
Sufficient (proof)		
Superimposes		
Tangent (circle)		
Tangent/tan (trigonometry)		
Theorem		

Vocabulary first used in the Algebra 1 End-of-Course Exam

Term	Check the box once you know it.		Term	Check the box once you know it.
Approximate (as a verb)			Arithmetic sequence	
Binomial			Calculate	
Completing the square			Consecutive	
Constant			Correlation, negative	
Correlation, positive			Correlation, strong	
Correlation, weak			Cube (exponent)	
Cube root			Direct proportion/Directly proportional	
Direct variation			Domain (function)	
Explicit (sequence, series)			Exponential equation	
Exponential function			Frequency	
Geometric sequence			Initial	
Intersection			Inverse proportion/Inversely proportional	
Inverse variation			Line that fits the data	
Line, point-slope form			Line, slope-intercept form	
Line, standard form			Model	
Monomial			Nonnegative	
Nonzero			Precise	
Precision			Polynomial	
Quadrant			Quadratic equation	
Quadratic formula			Quadratic function	
Radical			Range (function)	
Rate of change			Real number	
Recursive (sequence, series)			Region (coordinate plane)	
Root (function)			Satisfies (equation)	
Sequence			Solution set	
Square (exponent)			System (equations, inequalities)	
Term (sequence, series)			Trinomial	
Valid			Variable, dependent	
Variable, independent				

Vocabulary first introduced in the grades 3-8 MSP

In parentheses is when the term is first assessed on the Measurement of Student Progress (MSP)

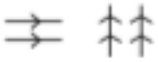
Term	Check the box once you know it.		Term	Check the box once you know it.
Absolute value (7)			Add (3)	
Addition (3)			Angle (3)	
Angle, acute (5)			Angle, right (3)	
Angles, adjacent (8)			Angles, complementary (8)	
Angles, corresponding (7)			Angles, interior (8)	
Angles, obtuse (5)			Angles, supplementary (8)	
Angles, vertical (8)			Approximate (6)	
Area (4)			Attribute/property (3)	
Axis, horizontal (5)			Axis, vertical (5)	
Axis/axes (6)			Base (geometry) (5)	
Bias (7)			Box-and-whisker plot (8)	
Certain (4)			Chart (3)	
Circle (3)			Circle graph (7)	
Circumference (6)			Clockwise (8)	
Closed figure (3)			Cluster (8)	
Coin (3)			Common denominator (4)	
Compare (3)			Complement (probability) (6)	
Complete (3)			Conclude (3)	
Conclusion (3)			Cone (7)	
Congruent (4)			Construct (6)	
Convert (4)			Coordinate (4)	
Coordinate plane (8)			Correct (3)	
Corresponding sides (7)			Counterclockwise (8)	
Cube (6)			Cylinder (7)	
Data (3)			Decimal (4)	
Decompose (5)			Denominator (3)	
Determine (5)			Diagonal (3)	
Diagram (5)			Diameter (6)	
Difference (3)			Digit (3)	
Dilation (8)			Dimensions (5)	
Disagree (3)			Divide (3)	
Divisible (5)			Division (3)	
Edge (6)			Equal (3)	
Equally unlikely (4)			Equation (3)	
Equivalent (4)			Estimate (3)	
Evaluate (5)			Event (6)	
Event, dependent (8)			Event, independent (8)	
Events, mutually exclusive (8)			Exponent (7)	
Expression (3)			Face (6)	
Factor (4)			Fewer than (3)	
Fewest (3)			Figure (3)	
Formula (4)			Fraction (3)	
Function (8)			Function machine (5)	

Graph (3)			Greater than (3)	
Greatest (3)			Greatest common factor (5)	
Grid (4)			Height (5)	
Height, slant (6)			Hexagon (4)	
Hundreds (3)			Hundredths (4)	
Hypotenuse (8)			Identify (6)	
Image (8)			Impossible (4)	
Improper fraction (4)			Include (3)	
Inequality (3)			Information (3)	
Integer (6)			Intercept (8)	
Interquartile range (8)			Intersecting lines (3)	
Interval (6)			Justify (6)	
Key (graph) (3)			Kite (3)	
Label (3)			Law of exponents (8)	
Least (3)			Least common multiple (5)	
Less likely (4)			Less than (3)	
Likely (4)			Line (3)	
Line graph (5)			Line plot (3)	
Line segment (3)			Linear (5)	
Linear equation (7)			Linear function (8)	
Linear inequality (8)			Linearly related (5)	
Location (3)			Lowest terms (4)	
Maximum (7)			Mean (5)	
Measure (3)			Measure of center (7)	
Median (4)			Metric system (7)	
Million (4)			Minimum (7)	
Mode (4)			Model (3)	
More likely (4)			More than (3)	
Most (3)			Most likely (4)	
Multiple (4)			Multiplication (3)	
Multiply (3)			Net (geometry) (6)	
Number (3)			Number, composite (5)	
Number, even (3)			Number, irrational (8)	
Number, mixed (4)			Number, odd (3)	
Number, prime (5)			Number, rational (7)	
Number, whole (3)			Number line (3)	
Number pattern (3)			Numerator (3)	
Octagon (4)			Ones (3)	
Operation (3)			Order (3)	
Order of operations (6)			Ordered pair (4)	
Origin (5)			Outcome (7)	
Outlier (7)			Parallel (3)	
Parallelogram (3)			Pattern (3)	
Pentagon (4)			Per (6)	
Percent (6)			Perfect square (of an integer) (8)	
Perimeter (3)			Perpendicular (3)	
Pi (6)			Pictograph (3)	
Place value (3)			Plot (4)	

Point (3)			Polygon (4)	
Polygon, regular (4)			Polyhedron (6)	
Polyhedron, regular (6)			Population (3)	
Power (exponent) (8)			Predict (7)	
Prime factorization (7)			Prism (6)	
Probability (4)			Probability, experimental (6)	
Probability, theoretical (6)			Problem (3)	
Product (3)			Property, distributive (6)	
Property, identity (6)			Property/attribute (6)	
Proportion (6)			Proportional (6)	
Pyramid (6)			Pythagorean theorem (8)	
Quadrilateral (3)			Quartile (8)	
Quartile, lower (8)			Quartile, upper (8)	
Quotient (4)			Radical (8)	
Radius/radii (6)			Random sample (8)	
Range (4)			Rate (6)	
Rate, unit (6)			Ratio (6)	
Rectangle (3)			Reflection (8)	
Relation (3)			Relationship (6)	
Remainder (4)			Represent (3)	
Rhombus/rhombi (3)			Rotation (8)	
Round to the nearest (3)			Ruler (3)	
Sample space (7)			Scale (3)	
Scale (axis) (5)			Scale (proportion) (7)	
Scale drawing (7)			Scatter plot (8)	
Scientific notation (8)			Semicircle (6)	
Set (3)			Side (3)	
Similar figures (7)			Simplify (with directions) (4)	
Slope (7)			Solution (6)	
Solve (4)			Square (3)	
Square root (8)			Statement (3)	
Standard form (8)			Straightedge (3)	
Student (3)			Stem-and-leaf plot (7)	
Substitute (5)			Subtract (3)	
Subtraction (3)			Sum (3)	
Support (3)			Surface area (6)	
Survey (3)			Symbol (3)	
Symmetry (5)			Table (3)	
Tally/tallies (3)			Tens (3)	
Tenths (4)			Tetrahedron (6)	
Thermometer (3)			Thousands (3)	
Thousandths (5)			Three-dimensional (6)	
Title (3)			Total (3)	
Transformation (8)			Translation (8)	
Transversal (8)			Trapezoid (3)	
Tree diagram (7)			Trend line (8)	
Triangle (3)			Triangle, acute (5)	
Triangle, equilateral (5)			Triangle, isosceles (5)	
Triangle, obtuse (5)			Triangle, right (5)	

Triangle, scalene (5)			Two-dimensional (6)	
Unlikely (4)			U.S. Customary system (7)	
Value (3)			Variability (7)	
Variable (5)			Venn diagram (8)	
Verify (6)			Vertex/vertices (3)	
Volume (6)			Width (3)	

Mathematics Symbols First Used in Assessment Items

Strand	Name	Symbol	Grade
Operations	addition	+	3
	subtraction	-	3
	multiplication	×	3
		( )	5
		•	6
	division	÷	3
		– (for ex. $\frac{6}{3}$)	4
	absolute value of *a*	$\|a\|$	7
	square root of *a*	$\sqrt{a}$	8
Algebra	equal to	=	3
	less than	<	3
	greater than	>	3
	less than or equal to	≤	8
	greater than or equal to	≥	8
	not equal to	≠	8
	function	f(*x*)	HS
	brackets	[ ]	HS
Geometric Sense	right angle		3
	congruent		7
	line segment AB	$\overline{AB}$	7
	angle A	$\angle A, \angle BAC$	8
	triangle ABC	ΔABC	8
	perpendicular	$\perp$	8
	parallel	$\parallel$	8
	similar	~	HS
	measure of angle A	$m\angle A$	HS
	congruent	≅	HS
	parallel		HS
	ray AB	$\overrightarrow{AB}$	HS
	line AB	$\overleftrightarrow{AB}$	HS
	arc AB	$\overset{\frown}{AB}$	HS

Measurement Vocabulary

Attributes, Units, Abbreviations, and Grade Level First-Used in Assessment Items

The levels in parentheses refer to the grades at which students should develop an oral understanding of the terms according to the K-2 Standards.

Attribute	Unit	Grade
Length (K)	inch (in.)	3 (2)
	foot (ft)	3 (2)
	yard (yd)	3 (2)
	mile (mi)	4
	millimeter (mm)	4
	centimeter (cm)	3 (2)
	meter (m)	3 (2)
	kilometer (km)	4
Capacity (K)	cup (c)	3
	pint (pt)	3
	quart (qt)	3
	gallon (gal)	3
	milliliter (mL)	3
	liter (L)	3
	kiloliter (kL)	4
Weight (K)	ounce (oz)	3
	pound (lb)	3
	ton (t)	7
Mass	gram (g)	3
	kilogram (kg)	4

Attribute	Unit	Grade
Time	second (s)	4
	minute (min)	4 (2)
	hour (h)	4 (2)
	day (d)	4 (2)
	week (wk)	4 (2)
	month (mo)	4 (2)
	year (y)	4 (2)
Temperature	Degree Fahrenheit (°F)	3
	Degree Celsius (°C)	3
Angle	Degrees (°)	5

Conversions

- In grades 4-6, students are expected to convert within a measurement system but not between measurement systems. For example, 3 feet = 1 yard is a conversion within the U.S. customary system, but 1 yard ≈ 0.91 meter is a conversion between U.S. Customary and metric systems.
- In grade 7, students may be asked to convert between systems and conversion factors will be provided.
- Most dictionaries list conversion factors.

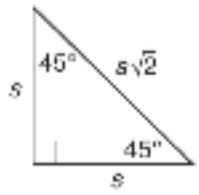
Mathematics Formula Sheets for High School

Use at least two decimal place values when approximating square roots or trigonometric ratios.

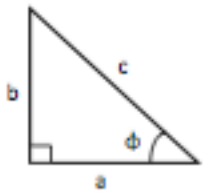
Description	Formula	Variables
Arc Length	$L = \frac{m\overset{\frown}{BC}}{360^\circ}\pi d$	L: Arc Length B, C: endpoints of arc d: diameter of the circle m: the measure of
Area of Sector	$A = \frac{m\overset{\frown}{BC}}{360^\circ}\pi r^2$	A: Area of Sector B, C: endpoints of intercepted arc r: radius of the circle m: the measure of
Cylinder	$SA = 2\pi r^2 + 2\pi rh$	SA: Surface Area r: radius of the base h: height
	$V = \pi r^2 h$	V: Volume r: radius of the base h: height
Cone	$SA = \pi r^2 + \pi rl$	SA: Surface Area r: radius of the base l: slant height
	$V = \frac{1}{3}Bh$ or $V = \frac{1}{3}\pi r^2 h$	V: Volume r: radius of the base h: height B: area of the base
Prism	$V = Bh$	V: Volume B: area of base H: height
	$SA = 2B + Ph$ or $SA = 2B + L$	SA: Surface Area B: area of base P: Perimeter of the base h: height L: lateral surface area
Pyramid	$V = \frac{1}{3}Bh$	V: Volume B: area of the base h: height
Quadratic Formula	$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$	x: solution a, b, c: coefficients
Sphere	$V = \frac{4}{3}\pi r^3$	V: Volume r: radius
	$SA = 4\pi r^2$	SA: Surface Area r: radius

Use at least two decimal place values when approximating square roots or trigonometric ratios.

Special Right Triangles



Trigonometric Ratios



$\sin \phi = \frac{b}{c}$

$\cos \phi = \frac{a}{c}$

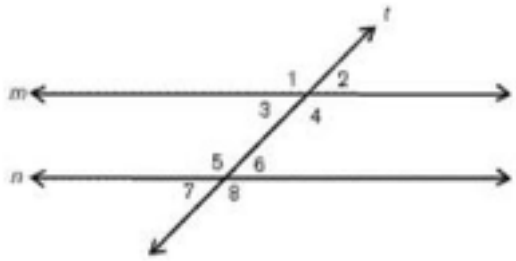
$\tan \phi = \frac{b}{a}$

Core Content: Logical arguments and proofs

Students formalize the reasoning skills they have developed in previous grades and solidify their understanding of what it means to prove a geometric statement mathematically. In Geometry, students encounter the concept of formal proof built on definitions, axioms, and theorems. They use inductive reasoning to test conjectures about geometric relationships and use deductive reasoning to prove or disprove their conclusions. Students defend their reasoning using precise mathematical language and symbols.

Performance expectation G.1.A	I can distinguish between inductive and deductive reasoning.
Where is this in my textbook?	
Example problems	• A student hypothesizes that the number of degrees in a polygon = $180 \cdot (s - 2)$, where s represents the number of sides. What is an example of how she can prove this hypothesis using inductive reasoning? A. She measures the interior angles of three triangles, all of different sizes, tracking the results of the sum of the interior angles. B. She measures the interior angles of a triangle, quadrilateral, pentagon, hexagon, heptagon, octagon, nonagon, and decagon, tracking the results of the sum of the interior angles. C. She looks for a formula in her textbook. D. She asks her teacher. • Which of the following answer choices is an example of deductive reasoning? A. Every fifth truck produced on the assembly line in January is blue. Every fifth truck produced on the assembly line in February is blue. Every fifth truck produced on the assembly line in March will be blue. B. The Griffins scored over 28 points in six straight football games. The Griffins will score over 28 points tonight. C. If school is canceled for snow, Edgar can sleep in. Edgar did not sleep in on Tuesday, which means school was not canceled for snow. D. Juan used a new brand of cologne. As soon as Juan started wearing the cologne, he began sneezing. The next day, he did not use the cologne and did not sneeze. Two days later, he wore the new brand of cologne again and sneezed throughout the day. He decided to stop wearing the cologne because wearing the cologne makes him sneeze.
In what form(s) will the test questions be like on the EOC Exam?	Multiple-choice
INITIAL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it
APRIL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it

Performance expectation G.1.B	I can use inductive reasoning to make conjectures, to test the plausibility of a geometric statement, and to help find a counterexample.
Where is this in my textbook?	
Example problem	Terry's teacher asks him to use inductive reasoning to make a conjecture that the diagonals of a kite are perpendicular. How can he do this?
In what form(s) will the test questions be like on the EOC Exam?	Not assessed
INITIAL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it
APRIL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it

<table>
<tr><td>Performance expectation G.1.C</td><td>I can use deductive reasoning to prove that a valid geometric statement is true.</td></tr>
<tr><td>Where is this in my textbook?</td><td></td></tr>
<tr><td>Example problem</td><td>Fill in the missing reasons in the two-column proof below.
Given: $m\angle 2 = 55°$ and $m\angle 5 = 125°$
Prove: $m \parallel n$
 

<table>
<tr><th>Statement</th><th>Reason</th></tr>
<tr><td>$m\angle 2 = 55°$</td><td>Given</td></tr>
<tr><td>$m\angle 5 = 125°$</td><td>Given</td></tr>
<tr><td>$\angle 2 \cong \angle 3$</td><td>Vertical Angles</td></tr>
<tr><td>$\angle 3 \cong \angle 5$</td><td></td></tr>
<tr><td>$m \parallel n$</td><td></td></tr>
</table>
A. Alternate Interior Angles; Alternate Interior Angles Converse
B. Alternate Exterior Angles; Alternate Exterior Angles Converse
C. Corresponding Angles; Corresponding Angles Converse
D. Consecutive Interior Angles; Consecutive Interior Angles Converse</td></tr>
<tr><td>In what form(s) will the test questions be like on the EOC Exam?</td><td>Multiple-choice
Short answer</td></tr>
<tr><td>INITIAL SELF-ASSESSMENT:

Draw yourself on the line of understanding.</td><td>_____
No clue Totally get it</td></tr>
<tr><td>APRIL SELF-ASSESSMENT:

Draw yourself on the line of understanding.</td><td>_____
No clue Totally get it</td></tr>
</table>

Performance expectation G.1.D	I can write the converse, inverse, and contrapositive of a valid proposition and determine their validity.
Where is this in my textbook?	
Example problems	• The given statement is a valid geometric proposition: *If the tabletop is rectangular, then its diagonals are congruent.* Write the inverse and contrapositive of the given statement. • Determine the converse of the given statement: *If the tabletop is rectangular, then its diagonals are congruent.* A. If a tabletop is rectangular, then its diagonals are not congruent. B. If the diagonals of a tabletop are congruent, then it is rectangular. C. If a tabletop is not rectangular, then its diagonals are not congruent. D. If the diagonals of a tabletop are not congruent, then it is not rectangular. • If *m* and *n are* odd integers, then the sum of *m* and *n* is an even integer. State the converse and determine whether it is valid.
In what form(s) will the test questions be like on the EOC Exam?	Multiple-choice Short answer
INITIAL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it
APRIL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it

Performance expectation G.1.E	I can identify errors or gaps in a mathematical argument and develop counterexamples to refute invalid statements about geometric relationships.
Where is this in my textbook?	
Example problem	Jackie was supposed to prove $\Delta ABC \cong \Delta PQR$ by SAS for her homework assignment. She wrote the following proof: Given $\angle ABC \cong \angle PRQ$, $\overline{AB} \cong \overline{PQ}$, and $\overline{BC} \cong \overline{QR}$, then $\Delta ABC \cong \Delta PQR$ by SAS. Which statement should be changed in order for Jackie's proof to be correct? A. $\angle ABC \cong \angle PRQ$ should be rewritten as $\angle ABC \cong \angle QPR$ B. $\overline{AB} \cong \overline{PQ}$ should be rewritten as $\overline{AB} \cong \overline{PR}$ C. $\overline{BC} \cong \overline{QR}$ should be rewritten as $\overline{AC} \cong \overline{QR}$ D. $\Delta ABC \cong \Delta PQR$ by SAS should be rewritten as $\Delta ABC \cong \Delta PQR$ by SSA
In what form(s) will the test questions be like on the EOC Exam?	Multiple-choice
INITIAL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it
APRIL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it

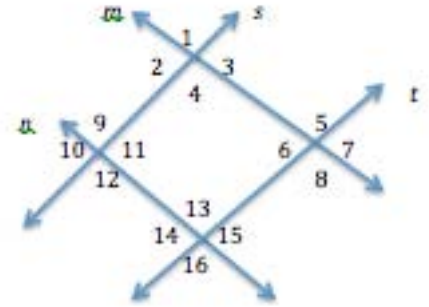
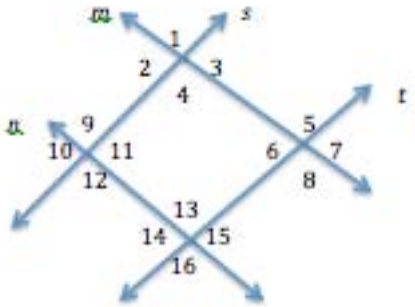
Performance expectation G.1.F	I can distinguish between definitions and undefined geometric terms and explain the role of definitions, undefined terms, postulates (axioms), and theorems.
Where is this in my textbook?	
Example problems	• Which of the following statements is true? A. A postulate is a proven fact using theorems, definitions, and undefined terms. B. A theorem is a proven fact using postulates, definitions, and undefined terms. C. Some defined geometric terms are line, plane, and point. D. Some undefined geometry terms are angle, ray, and line segment. • The statement *a ray is the part of the line which consists of the given point and the set of all points on one side of the end point* is an example of which of the following? A. A defined term B. An undefined term C. A postulate D. A theorem • Using the figure below, the statement *only one line contains points* Q *and* T is considered to be a postulate. That means which of the following?  A. The statement is invalid because it uses two undefined terms. B. The statement has been proven true. C. The statement is not accepted as being true because it has not been proven true. D. The statement is accepted as being true even though it has not been proven true.
In what form(s) will the test questions be like on the EOC Exam?	Multiple-choice
INITIAL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it
APRIL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it

Core Content: Lines and angles

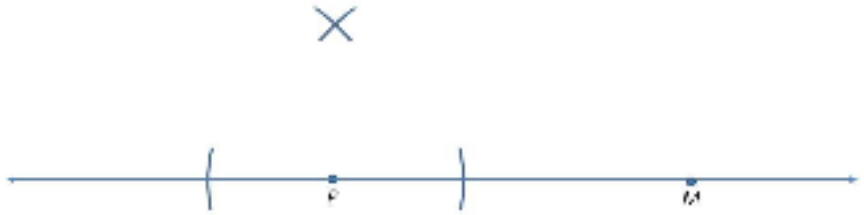
Students study basic properties of parallel and perpendicular lines, their respective slopes, and the properties of the angles formed when parallel lines are intersected by a transversal. They prove related theorems and apply them to solve both mathematical and practical problems.

Performance expectation G.2.A	I know and can prove and apply theorems about parallel and perpendicular lines.
Where is this in my textbook?	
Example problems	• If each of two lines is perpendicular to a given line, what is the relationship between the two lines? They are _____. • What is the slope of a line that is perpendicular to $y = -3x + 4$? A. -3 B. $-\frac{1}{3}$ C. $\frac{1}{3}$ D. 3
In what form(s) will the test questions be like on the EOC Exam?	Multiple-choice Completion
INITIAL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it
APRIL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it

G.2.A Theorems *This list of theorems describes geometric concepts students are expected to know, understand, and apply. Students are not expected to know or memorize the exact wording of the theorems in this list. This list will not be provided during the test.*
1. Given a line and a point not on the line, there exists exactly one line through the point and parallel to the given line.
2. Given a line and a point not on the line, there exists exactly one line through the point and perpendicular to the given line.
3. Given two lines, they are perpendicular if and only if their intersection forms right angles.
4. If two lines are both parallel to a third line, then they are parallel to each other.
5. If two lines are perpendicular to a third line, then they are parallel to each other.
6. If a line is perpendicular to one of two parallel lines, then it is perpendicular to the other line.
7. Two nonvertical lines in a coordinate plane are parallel if and only if they have the same slope.
8. Two nonvertical lines in a coordinate plane are perpendicular if and only if the product of their slopes is -1.
9. A point lies on the perpendicular bisector of a segment if and only if it is equidistant from the endpoints of the segment.

Performance expectation G.2.B	I know and can prove and apply theorems about angles, including angles that arise from parallel lines intersected by a transversal.
Where is this in my textbook?	
Example problems	• Use the image below to answer the following question. If $\angle 1 \cong \angle 8$, which of the statements is true?  A. $m \parallel n$ B. $s \parallel t$ C. $m \perp t$ D. $n \perp s$ • Use the image below to answer the following question. If $m \parallel n$, which of the following statements is always true?  A. $m\angle 4 + m\angle 6 = 180°$ B. $\angle 11 \cong \angle 14$ C. $m\angle 1 + m\angle 9 = 180°$ D. $\angle 3 \cong \angle 10$
In what form(s) will the test questions be like on the EOC Exam?	Multiple-choice Completion
SEPTEMBER SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it
APRIL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it

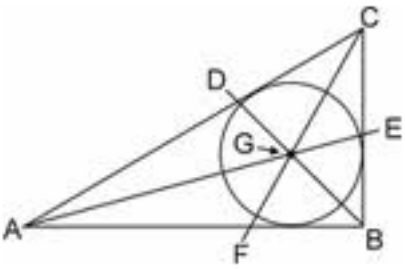
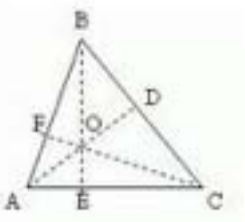
G.2.B Theorems *This list of theorems describes geometric concepts students are expected to know, understand, and apply. Students are not expected to know or memorize the exact wording of the theorems in this list. This list will not be provided during the test.*
1. Given two lines cut by a transversal, the lines are parallel if and only if one of these angle pairs is congruent: corresponding angles, alternate interior, alternate exterior.
2. Given two lines cut by a transversal, the lines are parallel if and only if the pairs of interior or exterior angles on the same side of the transversal are supplementary.
3. If two angles are complements or supplements of the same angle or congruent angles, then the angles are congruent.
4. A point in the interior of an angle lies on the angle bisector if and only if it is equidistant from the sides of the angle.

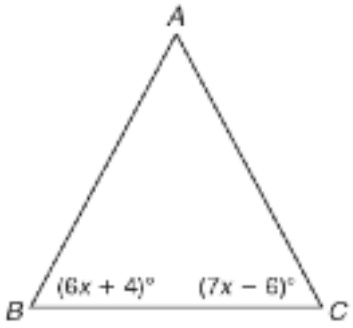
Performance expectation G.2.C	I can explain and perform basic compass and straightedge constructions related to parallel and perpendicular lines.
Where is this in my textbook?	
Example problem	Given line *PM*, the drawing shows the beginning steps of a geometric construction.  Which construction is show? A. The perpendicular bisector of line *PM*. B. A line perpendicular to line *PM* at point *P*. C. A line perpendicular to line *PM* at point *M*. D. A line parallel to line *PM* through point *P*.
In what form(s) will the test questions be like on the EOC Exam?	Multiple-choice
INITIAL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it
APRIL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it

Performance expectation G.2.D	I can describe the intersections of lines in the plane and in space, of lines and planes, and of planes in space.
Where is this in my textbook?	
Example problems	• The intersection of two lines will form which of the following? A. Point B. Line C. Ray D. Plane • The intersection of two planes will form which of the following? A. Point B. Line C. Ray D. Plane • The intersection of a plane and a line not on the plane will form which of the following? A. Point B. Line C. Ray D. Plane
In what form(s) will the test questions be like on the EOC Exam?	Multiple-choice
INITAL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it
APRIL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it

Core Content: Two- and three-dimensional figures

Students know and can prove theorems about two- and three-dimensional geometric figures, both formally and informally. They identify necessary and sufficient conditions for proving congruence, similarity, and properties of figures. Triangles are a primary focus, beginning with general properties of triangles, working with right triangles and special triangles, proving and applying the Pythagorean Theorem and its converse, and applying the basic trigonometric ratios of sine, cosine, and tangent. Students extend their learning to other polygons and the circle, and do some work with three-dimensional figures.

Performance expectation G.3.A	I know and can explain and apply basic postulates and theorems about triangles and the special lines, line segments, and rays associated with a triangle.
Where is this in my textbook?	
Example problems	• Choose the true statement based on knowing point G is the incenter of triangle ABC.  A. $BE \cong CE, \angle BEA \neq 90°$ B. $\angle ADG = 90°, AD \neq CD$ C. $CE \cong BE, \angle AEB = 90°$ D. $\angle DCG \cong \angle ECG$ • Triangle JKE is an obtuse isosceles triangle with $m\angle E = 10°$ and $KE > JK$. What is the measure of $\angle J$? A. 170^0 B. 160^0 C. 85^0 D. 10^0 • Choose the true statement based on knowing point O is the orthocenter of triangle ABC.  A. $\angle BDA \cong \angle CDA$ B. $BO \cong CO$ C. $\angle BAD \cong \angle CAD$ D. $EO \cong FO$

	• In the isosceles triangle shown, $AB = AC$.  What is the value of x? A. $\frac{10}{13}$ B. 2 C. 10 D. 14
In what form(s) will the test questions be like on the EOC Exam?	Multiple-choice Short answer
INITIAL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it
APRIL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it

G.3.A Theorems *This list of theorems describes geometric concepts students are expected to know, understand, and apply. Students are not expected to know or memorize the exact wording of the theorems in this list. This list will not be provided during the test.*
1. A triangle is isosceles if and only if the base angles are congruent.
2. The medians of a triangle are concurrent at the centroid.
3. The lines containing the altitudes of a triangle are concurrent at the orthocenter.
4. The lines containing the perpendicular bisector of a triangle are concurrent at the circumcenter. Their common point is equidistant from the three vertices of the triangle.
5. The lines containing the angle bisectors of a triangle are concurrent at the incenter. Their common point is equidistant from the three sides of the triangle.
6. The measure of an exterior angle of a triangle is equal to the sum of the measures of the two remote angles.
7. The sum of the lengths of any two sides of a triangle is greater than the length of the third side.

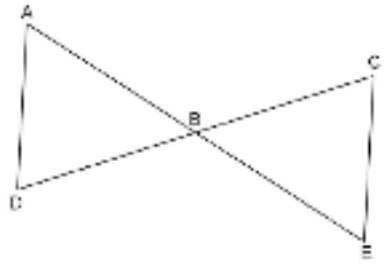
Performance expectation G.3.B	I can determine and prove triangle congruence, triangle similarity, and other properties of triangles.
Where is this in my textbook?	
Example problems	

A proof is shown.

Fill in the blanks for steps 5 and 6 to complete the proof.

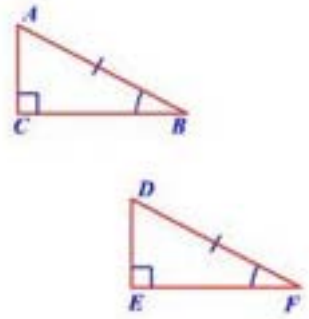
Given: B is the midpoint of $\overline{AE}$.
B is the midpoint of $\overline{CD}$.

Prove: $\Delta ABD \cong \Delta EBC$



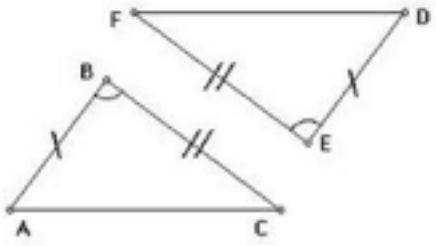
Statements	Reasons
1. B is the midpoint of $\overline{AE}$.	1. Given
2. $\overline{AB} \cong \overline{BE}$	2. Definition of midpoint
3. B is the midpoint of $\overline{CD}$.	3. Given
4. $\overline{CB} \cong \overline{BD}$	4. Definition of midpoint
5.	5. Vertical Angles Theorem
6. $\Delta ABD \cong \Delta EBC$	6.

- Which theorem proves $\Delta ABC \cong \Delta DFE$?



A. AAS
B. ASA
C. SAS
D. SSS

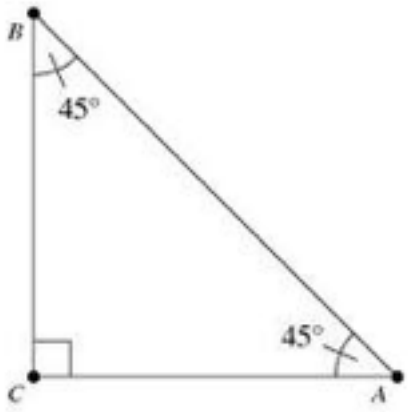
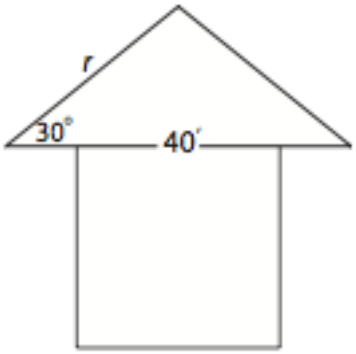
- Which theorem proves $\Delta ABC \cong \Delta DEF$?

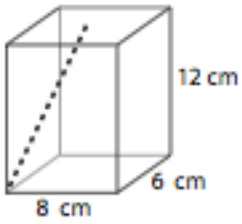


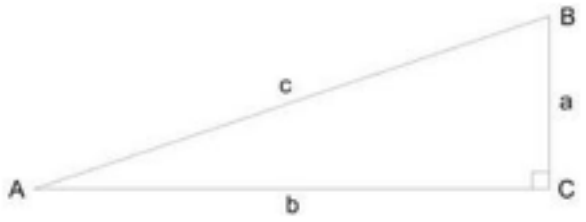
A. AAS
B. ASA
C. SAS
D. SSS

In what form(s) will the test questions be like on the EOC Exam?	Multiple-choice Short answer
INITIAL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it
APRIL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it

G.3.B Theorems *This list of theorems describes geometric concepts students are expected to know, understand, and apply. Students are not expected to know or memorize the exact wording of the theorems in this list. This list will not be provided during the test.*	**Check the box once you know it.**
1. If two angles of one triangle are congruent to two angles of another triangle, then the two triangles are similar. (Angle – Angle Similarity)	
2. If three sides of one triangle are congruent to three sides of another triangle, then the two triangles are congruent. (Side – Side – Side Congruence)	
3. If two sides and the included angle of one triangle are congruent to two sides and the included angle of another triangle, then the two triangles are congruent. (Side – Angle – Side Congruence)	
4. If two angles and the included side of one triangle are congruent to two angles and the included side of another triangle, then the two triangles are congruent. (Angle – Side – Angle Congruence)	
5. If two angles and a nonincluded side of one triangle are congruent to two angles and the corresponding nonincluded side of another triangle, then the two triangles are congruent, (Angle – Angle – Side Congruence)	

Performance expectation G.3.C	I can use the properties of special right triangles (30^0-60^0-90^0 and 45^0-45^0-90^0) to solve problems.
Where is this in my textbook?	
Example problems	• Determine the length of the altitude of an equilateral triangle whose side lengths measure 8 units. A. 4 B. 8 C. $4\sqrt{2}$ D. $4\sqrt{3}$ • What is the length of the hypotenuse in ΔABC if $BC = 10$?  • The pitch of the symmetrical roof 40 feet in length is 30^0. What is the length of the rafter, *r*?  A. $10\sqrt{3}$ B. $20\sqrt{3}$ C. $40\sqrt{3}$ D. $80\sqrt{3}$
In what form(s) will the test questions be like on the EOC Exam?	Multiple-choice Completion
INITIAL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it
APRIL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it

Performance expectation G.3.D	I know and can prove and apply the Pythagorean Theorem and its converse.
Where is this in my textbook?	
Example problems	• A juice box is 6 cm by 8 cm by 12 cm. A straw is inserted into a hole in the center of the top of the box. The straw must stick out 2 cm so you can drink from it. If the straw must be long enough to touch each bottom corner of the box, what is the minimum length the straw must be? (Assume the diameter of the straw is 0 for the mathematical model.)  13 + 2 = 15 in? • Determine which triangle, with the given side lengths, is a right triangle. A. 7, 9, 12 B. 11, 16, 19 C. 8, 14, 16 D. 8, 15, 17
In what form(s) will the test questions be like on the EOC Exam?	Multiple-choice Completion
INITIAL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it
APRIL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it

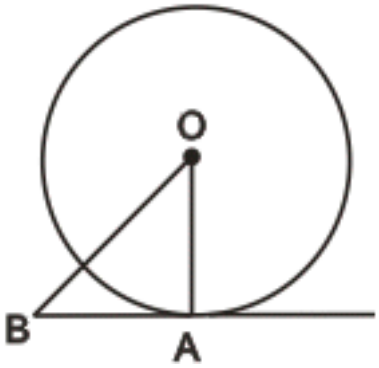
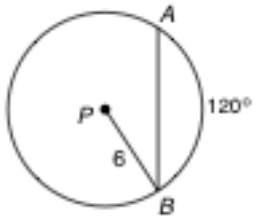
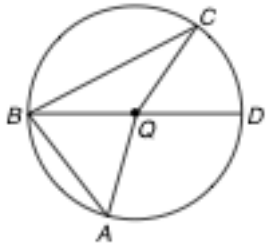
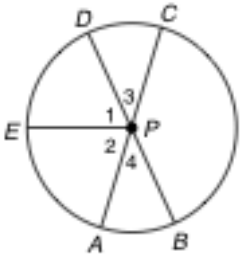
Performance expectation G.3.E	I can solve problems involving the basic trigonometric ratios of sine, cosine, and tangent.
Where is this in my textbook?	
Example problems	• A 12-foot ladder leans against a wall to form a 63^0 angle with the ground. About how many feet above the ground is the point on the wall at which the ladder is resting? A. 5.45 ft B. 10.69 ft C. 13.10 ft D. 23.55 ft • If $m\angle A = 25°$ and the length of the hypotenuse is 14 units, how can you determine the measure of side length b?  A. $\cos 25° = \frac{b}{14}$ B. $\cos 25° = \frac{14}{b}$ C. $\sin 25° = \frac{b}{14}$ D. $\sin 25° = \frac{14}{b}$
In what form(s) will the test questions be like on the EOC Exam?	Multiple-choice Short answer
INITIAL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it
APRIL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it

Performance expectation G.3.F	I know and can prove and apply basic theorems about parallelograms.
Where is this in my textbook?	
Example problems	• In parallelogram *PQRS* the measures of $\angle P$ and $\angle R$ are each 146^0. What is the measure of $\angle Q$? • Which of the following statements is always true of any parallelogram *ABCD*? A. $AC \cong BD$ B. $AC \perp BD$ C. $\angle A \cong \angle B$ D. $\angle A \cong \angle C$ • Which of the following statements is always true of any rhombus *ABCD*? A. $\angle A \cong \angle B$ B. $AB \perp BC$ C. $AC \cong BD$ D. $AC \perp BD$
In what form(s) will the test questions be like on the EOC Exam?	Multiple-choice Completion
INITIAL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it
APRIL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it

G.3.F Theorems *This list of theorems describes geometric concepts students are expected to know, understand, and apply. Students are not expected to know or memorize the exact wording of the theorems in this list. This list will not be provided during the test.*
1. A quadrilateral is a parallelogram if and only if its opposite sides are congruent.
2. A quadrilateral is a parallelogram if and only if its opposite angles are congruent.
3. A quadrilateral is a parallelogram if and only if its adjacent angles are supplementary.
4. A quadrilateral is a parallelogram if and only if its diagonals bisect each other.
5. A quadrilateral is a rectangle if and only if its diagonals are congruent.
6. A quadrilateral is a rhombus if and only if its diagonals are perpendicular.
7. A quadrilateral is a rhombus if and only if its diagonals bisect pairs of opposite angles.

Performance expectation G.3.G	I know and can prove and apply theorems about properties of quadrilaterals and other polygons.
Where is this in my textbook?	
Example problems	• What is the sum of the exterior angles of a polygon? A. 180^0 B. 360^0 C. 540^0 D. 720^0 • What is the length of the apothem of a regular hexagon with side length 8 in? • Solve for *x*, using the information from the trapezoid below. 
In what form(s) will the test questions be like on the EOC Exam?	Multiple-choice Completion
INITIAL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it
APRIL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it

G.3.G Theorems *This list of theorems describes geometric concepts students are expected to know, understand, and apply. Students are not expected to know or memorize the exact wording of the theorems in this list. This list will not be provided during the test.*
1. If a figure is a trapezoid, then consecutive angles between a pair of parallel lines are supplementary.
2. If a figure is a kite, then the diagonals are perpendicular.
3. The sum of the exterior angles of a polygon is 360^0.
4. The sum of the interior angles of a polygon is $((n-2)180)^0$ where n is the number of sides of the polygon.

Performance expectation G.3.H	I know and can prove and apply basic theorems relating circles to tangents, chords, radii, secants, and inscribed angles.
Where is this in my textbook?	
Example problems	• Given circle O with segment AB tangent to the circle at A. If $OA \cong AB$, what kind of triangle is OAB?  A. An equilateral triangle B. An isosceles right triangle C. An isosceles obtuse triangle D. A n isosceles acute triangle • Determine the measure of AB.  • In circle Q, $m\angle ABC = 72$ and $m\widehat{CD} = 46$. Determine $m\widehat{AD}$.  • In circle P, $m\angle 2 = m\angle 1, m\angle 2 = (4x + 35)°, m\angle 1 = (9x + 5)°$ with diameters $\overline{BD}$ and $\overline{AC}$. Determine $m\widehat{AD}$. 
In what form(s) will the test questions be like on the EOC Exam?	Multiple-choice Completion

INITIAL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it
APRIL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it

G.3.H Theorems *This list of theorems describes geometric concepts students are expected to know, understand, and apply. Students are not expected to know or memorize the exact wording of the theorems in this list. This list will not be provided during the test.*
1. Given two congruent circles (or the same circle), two arcs are congruent if and only if their central angles are congruent.
2. Given two congruent circles (or the same circle), two chords are congruent if and only if they are equidistant from the center of the circle.
3. Given two congruent circles (or the same circle), two minor arcs are congruent if and only if their corresponding chords are congruent.
4. If the diameter of a circle is perpendicular to a chord, then the diameter bisects the chord and the diameter bisects the arc intercepted by the chord.
5. If two inscribed angles in a circle intercept the same arc, then they have the same measure.
6. If two secants intersect in the interior of a circle, then the sum of the measures of vertical angles formed is equal to the sum of the measures of the corresponding intercepted arcs.
7. A line is tangent to a circle if and only if it is perpendicular to the radius drawn to the point of tangency.
8. An angle inscribed in a circle is a right angle if and only if its corresponding arc is a semicircle and the longest side of a resulting triangle is a diameter of the circle.
9. The measure of an inscribed angle in a circle is half the measure of the intercepted arc.
10. The measure of a central angle is equal to the measure of the intercepted arc.

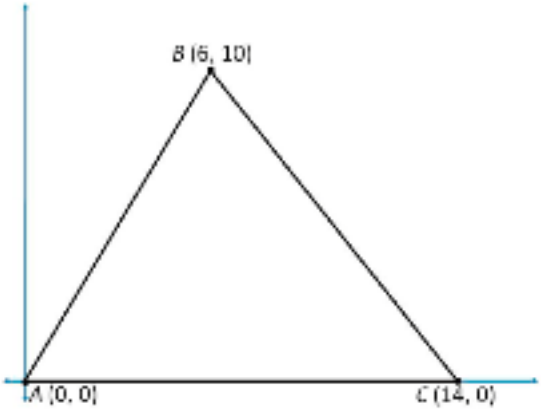
Performance expectation G.3.I	I can explain and perform constructions related to the circle.
Where is this in my textbook?	
Example problem	Which construction represents the center of a circle that is inscribed in a triangle? A. The intersection of the three altitudes of the triangle. B. The intersection of the three medians of the triangle. C. The intersection of the angle bisectors of each angle of the triangle. D. The intersection of the perpendicular bisectors of each side of the triangle.
In what form(s) will the test questions be like on the EOC Exam?	Multiple-choice
INITIAL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it
APRIL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it

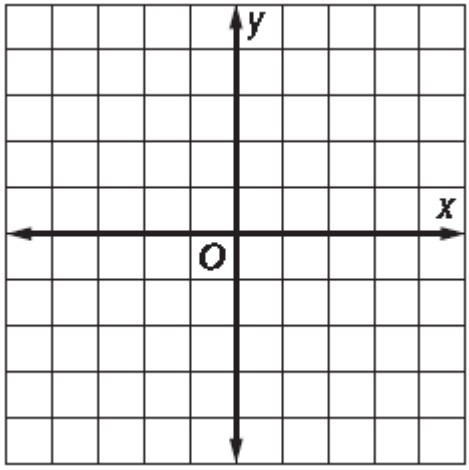
Performance expectation G.3.J	I can describe prisms, pyramids, prism, tetrahedra, and regular polyhedra in terms of their faces, edges, vertices, and properties.
Where is this in my textbook?	
Example problems	• Determine the number of faces and vertices of a rectangular prism. A. 4 faces, 4 vertices B. 6 faces, 6 vertices C. 6 faces, 8 vertices D. 8 faces, 8 vertices • What shape is the base of a pyramid if the pyramid has six faces and six vertices? A. Triangle B. Quadrilateral C. Pentagon D. Hexagon
In what form(s) will the test questions be like on the EOC Exam?	Multiple-choice
INITIAL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it
APRIL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it

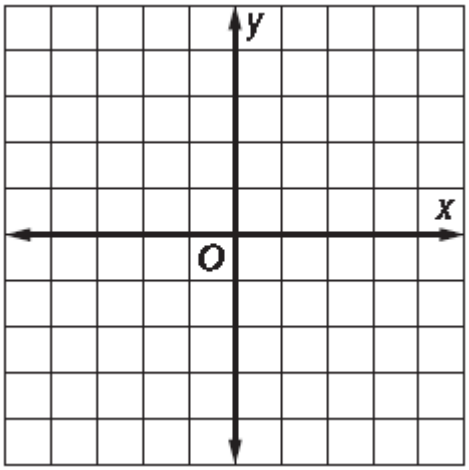
Performance expectation G.3.K	I can analyze cross-sections of cubes, prisms, pyramids, and spheres and identify the resulting shapes.
Where is this in my textbook?	
Example problem	What is the shape of a cross section that is perpendicular to the base of a right triangular prism? A. Triangle B. Rectangle C. Circle D. Line
In what form(s) will the test questions be like on the EOC Exam?	Multiple-choice
INITIAL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it
APRIL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it

Core Content: Geometry in the coordinate plane

Students make connections between geometry and algebra by studying geometric properties and attributes that can be represented on the coordinate plane. They use the coordinate plane to represent situations that are both purely mathematical and that arise in applied contexts. In this way, they use the power of algebra to solve problems about shapes and space.

Performance expectation G.4.A	I can determine the equation of a line in the coordinate plane that is described geometrically, including a line through two given points, a line through a given point parallel to a given line, and a line through a given point perpendicular to a given line.
Where is this in my textbook?	
Example problems	• Determine the equation of a line through the points (5, 3) and (5, -2). • What is the slope of the perpendicular bisector of a segment with endpoints (-2, 6) and (5, -1). • In ΔABC, point A is located at the origin. Point B is at (5, 10). Point C is at (14, 0).  Determine an equation of the line that passes through point B and the midpoint of $\overline{AC}$.
In what form(s) will the test questions be like on the EOC Exam?	Multiple-choice Completion
INITIAL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it
APRIL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it

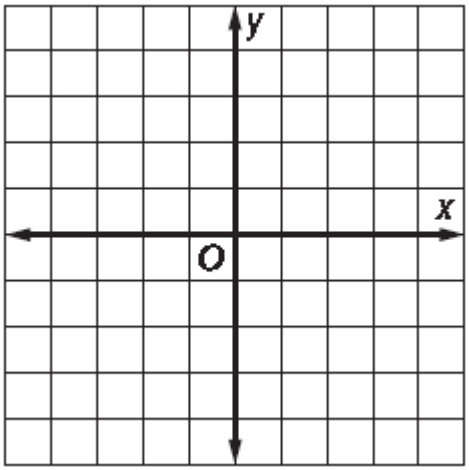
Performance expectation G.4.B	I can determine the coordinates of a point that is described geometrically.
Where is this in my textbook?	
Example problems	• Determine the coordinates for the midpoint of a line segment whose endpoints are (10, 3) and (-2, -4). • The vertices of a square are (3, 1), (-2, 0), (-1, -5), and (4, -4). The diagonals of the square intersect at point *Q*.  Determine the coordinates of point Q. You may use the blank grid to help determine the solution. • Points *X, Y,* and *Z* are collinear. *Y* is the midpoint of $\overline{XZ}$. The coordinates of point *X* are (-4, 5). The coordinates of point *Y* are (2, 1). Determine the coordinates of point *Z*.
In what form(s) will the test questions be like on the EOC Exam?	Multiple-choice Completion
INITIAL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it
APRIL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it

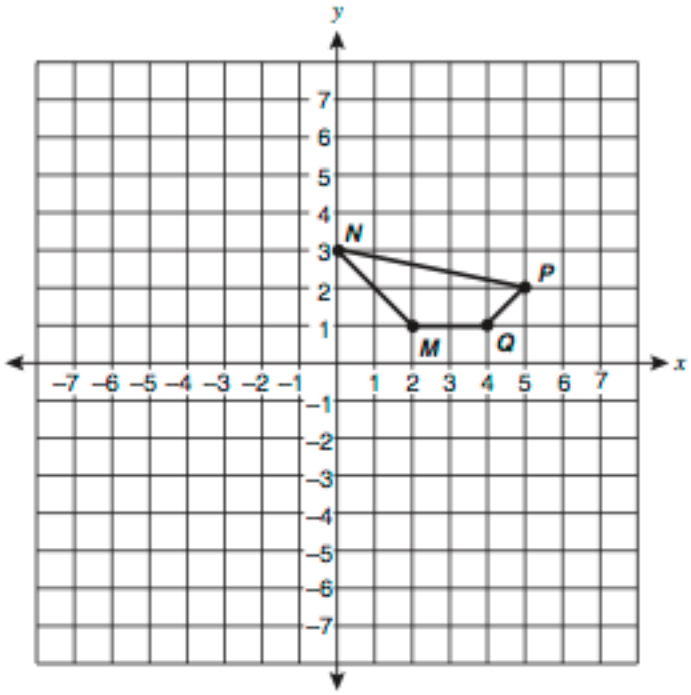
Performance expectation G.4.C	I can verify and apply properties of triangles and quadrilaterals in the coordinate plane.
Where is this in my textbook?	
Example problem	Three coordinates of a quadrilateral are (1, 0), (5, 4), and (2, -3). There are two possible vertices that will make this quadrilateral a parallelogram. Name each of these vertices. You may use the coordinate plane below to help you answer the question. *It is possible that one or both of the vertices will not fit on this coordinate plane.* 
In what form(s) will the test questions be like on the EOC Exam?	Multiple-choice Short answer
INITIAL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it
APRIL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it

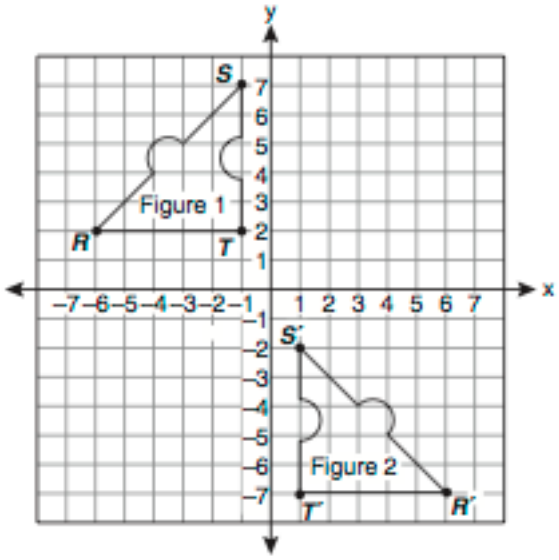
Performance expectation G.4.D	I can determine the equation of a circle that is described geometrically in the coordinate plane and, given equations for a circle and a line, determine the coordinates of their intersection(s).
Where is this in my textbook?	
Example problems	• Write an equation for a circle with a radius of 2 units and center at (1, 3). A. $(x-1)^2+(x-3)^2=4$ B. $(x-1)^2+(x-3)^2=2$ C. $(x+1)^2+(x+3)^2=4$ D. $(x+1)^2+(x+3)^2=2$ • Given the circle $x^2+y^2=4$ and the line $y=x$, determine the points of intersection. • Write an equation for a circle whose diameter is the line segment whose endpoints are (-3, 5) and (5, -1).
In what form(s) will the test questions be like on the EOC Exam?	Multiple-choice Completion
INITIAL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it
APRIL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it

Core Content: Geometric transformations

Students continue their study of geometric transformations, focusing on the effect of such transformations and the composition of transformations on the attributes of geometric figures. They study techniques for establishing congruence and similarity by means of transformations.

Performance expectation G.5.A	I can sketch the results of transformations and compositions of transformations for a given two-dimensional figure on the coordinate plane, and describe the rule(s) for performing translations or for performing reflections about the coordinate axes or the line y = x.
Where is this in my textbook?	
Example problem	Line m is described by the equation $y = 2x + 3$. Line m is reflected over the line $y = x$. Determine the equation of this new line. You may use the coordinate plane below to help you figure out the answer.  A. $y = \frac{1}{2}x - \frac{3}{2}$ B. $y = \frac{1}{2}x + \frac{3}{2}$ C. $y = 3x + 2$ D. $y = 2x - 3$
In what form(s) will the test questions be like on the EOC Exam?	Multiple-choice
INITIAL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it
APRIL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it

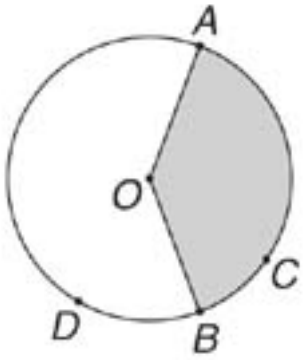
Performance expectation G.5.B	I can determine and apply properties of transformations.
Where is this in my textbook?	
Example problem	Dorine drew a quadrilateral on a coordinate grid.  She reflected the quadrilateral over the line $y = -2$ and then translated it left 4 units. What are the coordinates of the image of point *M*? A. $(2, -5)$ B. $(-2, -5)$ C. $(-6, 1)$ D. $(-2, 1)$
In what form(s) will the test questions be like on the EOC Exam?	Multiple-choice
INITIAL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it
APRIL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it

Performance expectation G.5.C	I can, given two congruent or similar figures in a coordinate plane, describe a composition of translations, reflections, rotations, and dilations that superimposes one figure on the other.
Where is this in my textbook?	
Example problem	Livia saw this drawing at a museum.  Name two transformations that could be used to move Figure 1 to Figure 2. A. A reflection over $x = 0$, then a reflection over $y = 0$. B. A reflection over $x = 0$, then a shift down 9 units. C. A shift to the right 7 units, then a reflection over $y = 0$. D. A shift down 9 units, then a shift to the right 7 units.
In what form(s) will the test questions be like on the EOC Exam?	Multiple-choice
INITIAL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it
APRIL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it

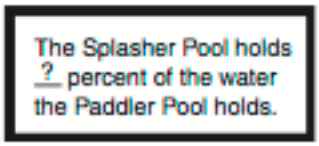
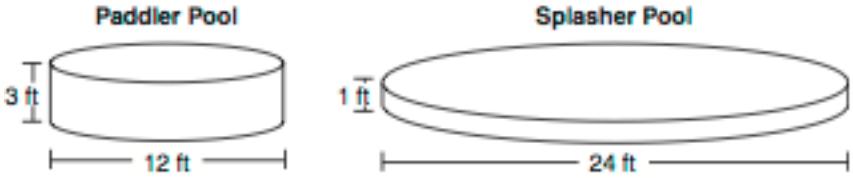
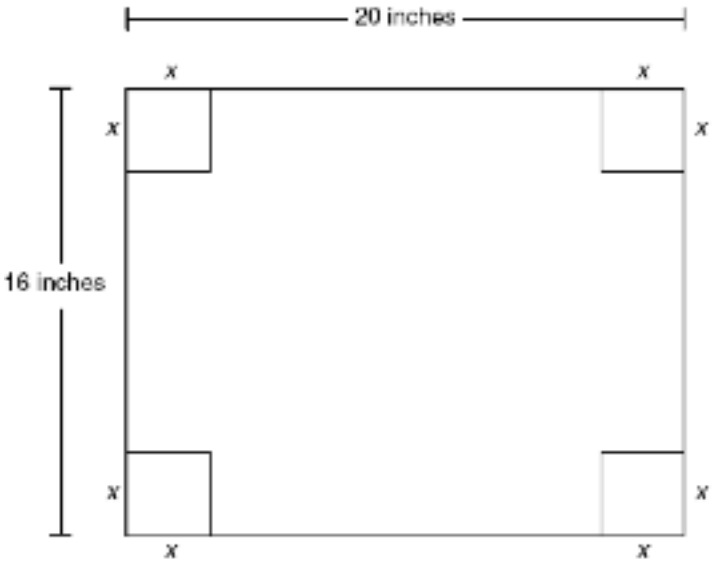
Performance expectation G.5.D	I can describe the symmetries of two-dimensional figures and describe transformations, including reflections across a line and rotations about a point.
Where is this in my textbook?	
Example problem	A triangle has vertices (0, 0), (3, 0), and (0, 6). A transformation is made so that a new triangle exists with vertices (0, 0), (6, 0), and (0, -3). Describe the transformation. A. A reflection over the line $y = x$ B. A reflection over the line $y = 0$ C. A 90^0 clockwise rotation around point (3, 0) D. A 90^0 clockwise rotation around point (0, 0)
In what form(s) will the test questions be like on the EOC Exam?	Multiple-choice Completion
INITIAL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it
APRIL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it

Additional Key Content

Students extend and formalize their work with geometric formulas for perimeter, area, surface area, and volume of two- and three-dimensional figures, focusing on mathematical derivations of these formulas and their applications in complex problems. They use properties of geometry and measurement to solve problems in purely mathematical as well as applied contexts. Students understand the role of units in measurement and apply what they know to solve problems involving derived measures like speed or density. They understand that all measurement is approximate and specify precision in measurement problems.

Performance expectation G.6.A	I can derive and apply formulas for arc length and area of a sector of a circle.
Where is this in my textbook?	
Example problems	• Using the figure below, determine the area of the sector if $m\angle AOB = 160°$ and the radius of the circle is 5 cm.  A. 6.98 cm² B. 13.96 cm² C. 32.00 cm² D. 34.91 cm² • Using the figure below, determine the length of arc AB if $\angle AOB = 150°$ and the radius of the circle is 9 cm. A. 11.78 cm² B. 16.67 cm² C. 23.56 cm² D. 33.75 cm²
In what form(s) will the test questions be like on the EOC Exam?	Multiple-choice
INITIAL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it
APRIL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it

Performance expectation G.6.B	I can analyze distance and angle measures on a sphere and apply these measurements to the geometry of the earth.
Where is this in my textbook?	
Example problems	*Problems require a three-dimensional model.*
In what form(s) will the test questions be like on the EOC Exam?	Not assessed
INITIAL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it
APRIL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it

Performance expectation G.6.C	I can apply formulas for surface area and volume of three-dimensional figures to solve problems.
Where is this in my textbook?	
Example problems	• A rectangle is 5 inches by 10 inches. Determine the volume of a cylinder that is generated by rotating the rectangle about the 10-inch side. • Silvia worked in a store that sold cylinder-shaped children's pools. She made a sign relating the volumes of these two pools.   The Splasher Pool holds which percent of the water the Paddler Pool holds? A. 33% B. 75% C. 133% D. 300% • A company is making shoeboxes from cardboard. The cardboard is 20 inches in length and 16 inches in width. The company is going to cut square pieces off each corner as shown in the diagram below and fold the sides up.  What would be the formula for the volume of the box in terms of x? A. $V = 4x^3 - 72x^2 + 320x$ B. $V = x^3 - 36x^2 + 320x$ C. $V = 4x^2 - 72x + 320$ D. $V = 320x$
In what form(s) will the test questions be like on the EOC Exam?	Multiple-choice Completion
INITIAL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it

APRIL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it

Performance expectation G.6.D	I can predict and verify the effect that changing one, two, or three linear dimensions has on perimeter, area, volume, or surface area of two- and three-dimensional figures.
Where is this in my textbook?	
Example problems	• The ratio of a pair of corresponding sides in two similar triangles is 5:3. The area of the smaller triangle is 108 in^2. What is the area of the larger triangle? • What happens to the volume of a rectangular prism if four parallel edges are doubled in length? A. The volume is 2 times as large B. The volume is 4 times as large. C. The volume is 8 times as large. D. The volume is 16 times as large. • Mr. Lansing has a square garden that is completely surrounded by an old, rickety fence. He plans to tear down the old fence and make his new square garden 4 times the area of his old garden. If the old fence has a total length of 80 ft, how long will the new fence be?
In what form(s) will the test questions be like on the EOC Exam?	Multiple-choice Completion
INITIAL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it
APRIL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it

Performance expectation G.6.E	I can use different degrees of precision in measurement, explain the reason for using a certain degree of precision, and apply estimation strategies to obtain reasonable measurements with appropriate precision for a given purpose.
Where is this in my textbook?	
Example problem	The U.S. Census Bureau reported a national population of 299,894,924 on its Population Clock in mid-October of 2006. One can say that the U.S. population is 3 hundred million (3×10^8) and be precise to one digit. Although the population had surpassed 3 hundred million by the end of that month, explain why 3×10^8 remained précises to one digit.
In what form(s) will the test questions be like on the EOC Exam?	Multiple-choice Short answer
INITIAL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it
APRIL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it

Performance expectation G.6.F	I can solve problems involving measurement conversions within and between systems, including those involving derived units, and analyze solutions in terms of reasonableness of solutions and appropriate units.
Where is this in my textbook?	
Example problems	• There are 5 horses on 12 acres of land. What is the mean number of square yards per horse? 1 acre = 43,560 square feet A. 8,712 square yards B. 11,616 square yards C. 34,848 square yards D. 58,080 square yards • A backpack has a volume of 3,000 cubic inches. What is the volume of the backpack to the nearest cubic centimeter? 1 inch = 2.54 centimeters A. 183 cubic centimeters B. 1,181 cubic centimeters C. 7,620 cubic centimeters D. 49,161 cubic centimeters • Mrs. Norris is painting the walls of her dining room with a surface area of 290,304 square inches. One gallon of paint covers 375 square feet. Determine the number of gallons needed for Mrs. Norris to apply two coats of point.
In what form(s) will the test questions be like on the EOC Exam?	Multiple-choice Completion
INITIAL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it
APRIL SELF-ASSESSMENT: Draw yourself on the line of understanding.	_____ No clue Totally get it

Core Processes: Reasoning, problem solving, and communication

Students formalize the development of reasoning in Geometry as they become more sophisticated in their ability to reason inductively and begin to use deductive reasoning in formal proofs. They extend the problem-solving practices developed in earlier grades and apply them to more challenging problems, including problems related to mathematical and applied situations. Students use a coherent problem-solving process in which they analyze the situation to determine the question(s) to be answered, synthesize given information, and identify implicit and explicit assumptions that have been made. They examine their solution(s) to determine reasonableness, accuracy, and meaning in the context of the original problem. They use correct mathematical language, terms, symbols, and conventions as they address problems in Geometry and provide descriptions and justifications of solution processes. The mathematical thinking, reasoning, and problem-solving processes students learn in high school mathematics can be used throughout their lives as they deal with a world in which an increasing amount of information is presented in quantitative ways, and more and more occupations and fields of study rely on mathematics.

The following core processes performance expectations will manifest themselves throughout the core content performance expectations.
G.7.A – I can analyze a problem situation and represent it mathematically.
G.7.B – I can select and apply strategies to solve problems.
G.7.C – I can evaluate a solution for reasonableness, verify its accuracy, and interpret the solution in the context of the original problems.
G.7.D – I can generalize a solution strategy for a single problem to a class of related problems, and apply and strategy for a class of related problems to solve specific problems.
G.7.E – I can read and interpret diagrams, graphs, and text containing the symbols, language, and conventions of mathematics.
G.7.F – I can summarize mathematical ideas with precision and efficiency for a given audience and purpose.
G.7.G – I can synthesize information to draw conclusions, and evaluate the arguments and conclusions of others.
G.7.H – I can use inductive reasoning to make conjectures, and use deductive reasoning to prove or disprove conjectures.

Answers to Example Problems

<table>
<tr><td>G.1.A
• B
• C</td><td colspan="2">G.1.B
Terry can use a ruler to draw 10 kites of all different sizes. Then he can use his ruler to draw the diagonals of each kite. Finally, he can use a protractor to measure the angles of the intersections of the diagonals. If he finds that the angles of intersection are all 90^0, then he can make the conjecture that the diagonals of kites are perpendicular.</td><td>G.1.C
D</td></tr>
<tr><td colspan="4">G.1.D
• Inverse: If the tabletop is not rectangular, then its diagonals are not congruent.
Contrapositive: If the tabletop's diagonals are not congruent, then it is not rectangular.
• B
• If the sum of m and n is an even integer, then m and n are odd integers.
This statement is not valid. Counterexample: If m = 2 and n = 4, the sum = 6 (even) but m and n are not odd integers.</td></tr>
<tr><td>G.1.E
B</td><td>G.1.F
• B
• A
• D</td><td colspan="2">G.2.A
• Parallel
• C</td></tr>
<tr><td>G.2.B
• B
• D</td><td>G.2.C
B</td><td colspan="2">G.2.D
• A
• B
• A</td></tr>
<tr><td>G.3.A
• B
• B
• A
• C</td><td>G.3.B
• Line 5: $\angle ABD \cong \angle EBC$
Line 6: SAS
• A
• C</td><td colspan="2">G.3.C
• D
• $10\sqrt{2}$ units
• A</td></tr>
<tr><td>G.3.D
• 15 in
• D</td><td>G.3.E
• B
• A</td><td colspan="2">G.3.F
• 34°
• D
• D</td></tr>
<tr><td>G.3.G
• 360°
• $4\sqrt{3}$ in
• 43.5</td><td>G.3.H
• B
• $6\sqrt{3}$ units
• 98°
• 118°</td><td colspan="2">G.3.I
A</td></tr>
<tr><td>G.3.J
• C
• C</td><td>G.3.K
B</td><td colspan="2">G.4.A
• $x = 5$
• 1
• $y = -5x + 35$</td></tr>
<tr><td>G.4.B
• $\left(4, -\frac{1}{2}\right)$
• $(1, -2)$
• $(8, -3)$</td><td>G.4.C
(-2, -7) and (6, 1)</td><td colspan="2">G.4.D
• A
• $(\sqrt{2}, \sqrt{2})$ and $(-\sqrt{2}, -\sqrt{2})$
• $(x-1)^2 + (y-2)^2 = 25$</td></tr>
<tr><td>G.5.A
A</td><td>G.5.B
B</td><td colspan="2">G.5.C
B</td></tr>
<tr><td>G.5.D
D</td><td>G.6.A
• D
• C</td><td colspan="2">G.6.C
• 250π in^3
• C
• A</td></tr>
<tr><td>G.6.D
• 300 in^2
• C
• 160 ft</td><td>G.6.E
Precision is how closely individual measures agree with each other, since 3 hundred million is such a large number, the changes in population would be reflected in lower place values and would not impact the overall precision of 3 hundred million because it would take a large increase in population to carry the value to 4 hundred million.</td><td colspan="2">G.6.F
• B
• D
• 10.752 gal</td></tr>
</table>

Strategies For Effective Student Learning

Ten Strategies for Students to Learn Math In the Classroom

1. Be to class on time!
2. Have a positive attitude. You *can* do math!
3. Take notes.
4. Complete all of your classwork and homework assignments.
5. Show your work on assignments and assessments. That will help you and your teacher identify any mistakes that you make.
6. Participate in classroom activities.
7. Take all assessments seriously. Don't leave anything blank.
8. Let your teacher know (when s/he is not talking or helping someone else) when there's something you don't understand. Be as specific as you can about what part of the problem you don't understand.
9. Ask a classmate for help (when it's okay for you to talk in class).
10. Don't give up! Take a deep breath and then try again. Perseverance is an essential skill in all areas of life.

Ten Strategies for Students to Learn Math Outside of the Classroom

1. Read aloud your class notes and the section in the book you're working on.
2. Redo the examples from your class notes (be sure to cover up your work and the answer first).
3. Do an internet search to see if there are descriptions and example problems about the topic you're working on.
4. Do a youtube search to see if there's someone who has posted a lesson about the topic you're working on.
5. Ask your teacher questions before or after school (depending on his/her schedule).
6. Ask a friend for help.
7. Ask another teacher for help.
8. Be sure to find out, right away, about any assignments or activities you missed when absent.
9. If you get stuck on a problem in your homework assignment, take a short break, and then return to the assignment later.
10. Never, ever, ever say, "I hate math. I'm not good at math." Having a negative attitude will make it harder to be successful in the class and on the EOC Exam.

Ten Strategies for Parents to Support Their Child's Learning of Mathematics

1. Never, ever, ever say, "I was never any good at math in school."
2. Never, ever, ever say, "I didn't like math when I was in school."
3. Never, ever, ever say, "I know math is boring and difficult, but you need to pass the class so do your homework!"
4. Let your child's math teacher know you want to support your child in math class and want to know if your child is ever not paying attention, not participating in classroom activities, not turning in assignments, or failing assessments.
5. Ask your child each day what s/he worked on in math class that day and if s/he has any homework. If you notice that s/he frequently tells you s/he doesn't have homework or finished it in class, check with his/her math teacher to verify that s/he is indeed completing and turning in all assignments.
6. Encourage your child to refer to the previous Ten Strategies sections if s/he is having difficulties with math, inside or outside of the classroom.
7. Have your child write down on your home calendar, or post somewhere in the house, when assessments are.
8. Make sure your child finds out about any missing assignments and activities when absent and completes them right away.

9. Check with your child's math teacher to find out if the school has a before-school or after-school study hall where students have access to math teachers and/or students in advanced math classes. Make sure that there are enough teachers/tutors to meet the needs of your child. Also make sure the study hall isn't just a place for students to socialize; the expectation of the students in the study hall should be that they're doing schoolwork.
10. If you use a tutor, silently observe a tutoring session to be sure the tutor isn't just doing the work for your child. Good tutors ask guiding questions and don't write down the work for the students. Good tutors don't focus just on that day's assignment, but in reviewing lessons previously covered and previewing upcoming lessons. Make spending up to $50/hour for a math tutor a worthwhile investment.