Pre-AP Geometry Spring Final Exam Topics 2017

Similarity:

* Apply definition of similar figures based on corresponding sides and angles.
* Indirect measurement using shadows or mirror
* Are these triangles similar? Why? (parallel lines in triangles)
* Find missing information in similar triangles.
* Interpret missing information in similar triangles formed by an altitude to the hypotenuse of a right triangle.

Right Triangles and Trig Ratios

* 30-60-90 and 45-45-90 shortcuts to find missing lengths
* Area of right triangle
* Write an equation using trig ratios to find missing information in sketches.
* Write trig ratios given sides of a right triangle.
* Find an unknown angle given a sketch or story about two of a right triangle’s sides.
* Interpret angle of elevation and other givens to find a missing side of a right triangle.
* Recognize 30-60-90 right triangle from side lengths.
* Find a point or radian measure on a unit circle given an angle in a sketch.

Polygons, Quadrilaterals, and Algebra

* Polygon Sum Theorems: sum of angles in an n-gon, one angle in a regular n-gon, one exterior angle in a regular n-gon
* Definitions of special quadrilaterals: trapezoid, kite, parallelogram, rectangle, rhombus, square
* Properties of diagonals of all parallelograms, kites, and isosceles trapezoids.
* Given the slopes of the sides of a quadrilateral, what type of quadrilateral must it be?

Measurement and solids:

* Area of part of a circle. Area of part of a square.
* Area of an isosceles triangle given partial information (like two sides, or one angle and one side).
* Area of right triangles, rectangles, of composite figure by breaking into triangles and rectangles.
* Names of solids: sphere, cone, cylinder, prism, pyramid, polyhedron
* Perimeter to area or area to perimeter given some information (rectangle).
* Volume of cone or pyramid vs. cylinder or prism with same dimensions (volume if it “comes to a point”)
* Comparing volumes and surface areas when dimensions are doubled or tripled.
* Volume of cylinder, prism, cone, pyramid given information.
* What solid is formed by this rotation?
* Solve algebraically for a dimension given volume and other dimensions of a solid.

Circles:

* All vocabulary associated with circles: radius, diameter, chord, secant, arc, minor arc, major arc, semicircle, arc measure, tangent line and point of tangency, central angle, inscribed angle
* Find arc measure or arc length given diameter, radius, central angle, &/or inscribed angle.
* Circle properties: inscribed angle half of intercepted arc, angle inscribed in a semicircle is a right angle, central angle is the same measure as its intercepted arc.
* Definition of Ä based on circumference and diameter.
* Circumference to area, area to circumference of a circle.

***Final Review Assignments (COLLECTED on day of final) – 15 pts***

**Due Mon-Tues, May 22-23**

Similarity: p 582-4: 3-4, 11-13, pp 595-6: 5-6, 14-16, pp 615-6: 15,17

**Due Wed-Thurs, May 24-25**

Right Triangles: p 496: 2, 5-8 (on 5 & 6 find radians), pp 659-60: 5-6, 10, 14-15

Quadrilaterals/Polygons/Algebra: p 167:7-11, p 263: 2,3,6,7; p 290: 1-13

**Due day of final:**

Measurement/Solids: pp 414-5: 11-12,23-24, p 425: 4,7,9, p 439: 3, 6; p 450: 2-3, pp554-7: 1-4,6,7,10,13,28

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