

# Study Guide: Test 1

## Van Hiele Levels

- Be able to name the level based on a brief description.
- Be able to judge a student's level based on examples of his/her work.

## Section 11.1: Basic Notions

- Study terms and definitions.
- Given a figure, be able to answer questions about points, lines, planes, etc. in the picture. (page 693 #3, handout)
- Look over how many lines can be drawn through  $n$  points, no 3 of which are collinear. Be able to explain your work.
- Know properties of lines and planes. What do we need to define a line or plane?
- Be able to convert degrees with decimals to degree, minutes, and seconds and vice versa. Also, know how to add and subtract measures in these forms. (wk #1, page 693 #7)
- Be able to find the measure of an unknown angle based on algebraic relationships. (wk #1, page 693 #9)

## Section 11.2: Polygons

- Study terms and definitions.
- Identify triangles by sides and angles.
- True/False statements with explanation. (wk #2)
- Know and be able to draw the hierarchy among quadrilaterals. (handout)

## Section 11.3: More About Angles

- Study terms and definitions.
- Know the information given in theorems.
- Be able to prove that the interior angles of a triangle sum to  $180^\circ$ . (handout)
- Be able to use information given in theorems and definitions to find measures of angles in figures. Be able to justify answers. (page 720 #3, 8, 9, wk #2)
- Know formula for finding the measure of interior angles of a convex polygon and how to use it. (page 720 #13, wk#3)

## Section 11.4: Geometry in Three Dimensions

- Study terms and definitions.
- Identify solids from nets. (page 735 #9, 10, wk#3)
- Identify solids.
- Identify parts of solids (vertices, edges, faces, etc.)
- Be able to identify the cube from a net. (page 735 #15)
- Know and be able to demonstrate Euler's formula.

## Section 12.1: Congruence Through Constructions

- Study terms and definitions.
- Be able to construct:
  - ❖ A congruent line segment
  - ❖ A congruent triangle
  - ❖ A triangle using three given sides
  - ❖ A congruent angle
  - ❖ A triangle using two sides and a given included angle
  - ❖ A perpendicular bisector of a segment
- Be able to find the circumcenter of a triangle and draw the circumscribed circle.
- Be able to justify whether two triangles are congruent using SSS or SAS property. (page 763, #7)
- Know the Triangle Inequality.

