Right Angles -- Geometry

A Puzzle by David Pleacher

Virginia Mathematics Teacher May 1981

Determine the answer to each definition or postulate below.

Then write the word in the 11 by 11 matrix using the following rules:

1. Each word makes one right-angle turn somewhere along its length. But you must determine where each word makes this turn and in which direction.
2. As a guide, the starting direction (i.e., the direction of the word before its right angle turn) of each answer is indicated by the letter given after the clue number.
3. Words can go North, South, East, or West to start with.
    For example, 1E begins on square 1 and heads East.
4. Each letter in the correctly completed grid appears in only one word.

1S in a triangle, the segment drawn from a vertex perpendicular to the opposite side

2N the side opposite the right angle in a right triangle

3E the union of two noncollinear rays with a common endpoint

4E two lines which intersect at a right angle

5E the number of lines which, through a given point, can be drawn parallel to a given line

6W a quadrilateral with two sides parallel

7N an equilateral quadrilateral

8S part of a circle

9W the side in a figure to which an altitude is drawn

10W points which lie in the same plane are called _____

11N a triangle with all sides congruent

12W two lines which are not parallel and do not intersect

13N the most basic of the three undefined terms in Euclidean geometry

14W in a triangle, the segment joining a vertex to the midpoint of the opposite side

15N the property which states that an number is equal to itself

16S a quadrilateral with two pairs of adjacent sides congruent

17W the set of points in a plane at a fixed distance from a given point

18W the segment joining the center of a circle with a point on the circle

										18
	16						8			
		5			13					9
						12	1			
11	7									
						10		15		
						17	2	3		
				4						
		14								6