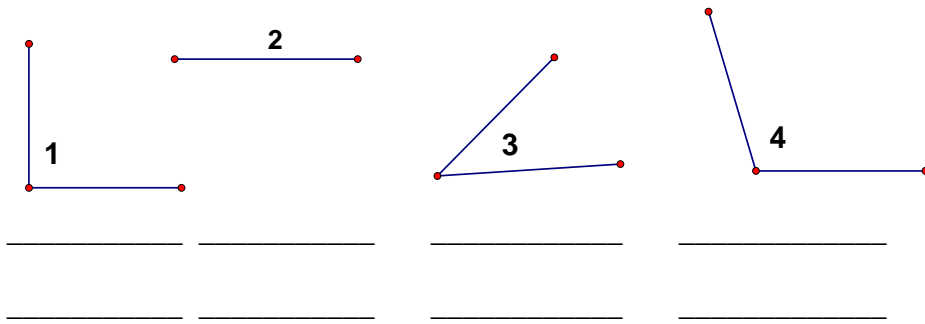


Pre 7.3c

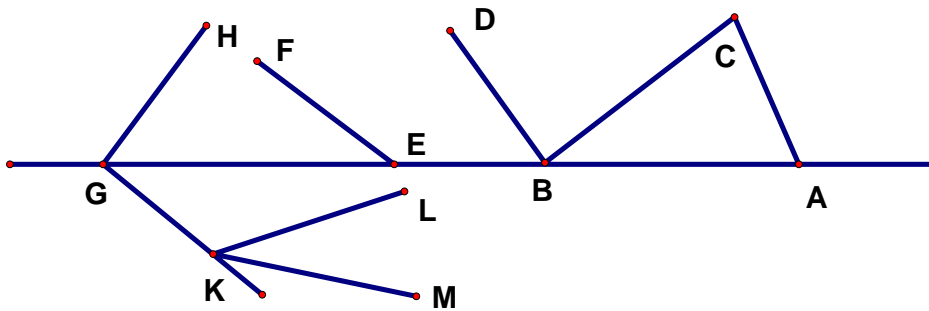
What's the Angle? What's the Shape?

(taken from Connect to NCTM standards)

1) Classify each angle as acute, right, obtuse, or straight. Then measure each angle.



2) Measure each angle in the figure below. Classify each angle as acute, right, obtuse or straight.



ABC _____	_____	CBD _____	_____
DBE _____	_____	BEF _____	_____
FEG _____	_____	HGE _____	_____
HGK _____	_____	GKL _____	_____
GKM _____	_____	ACB _____	_____

4) Work with a partner to create the following shapes. Use strips of centimeter graph paper, cut them to given lengths and move them to create the shape. If it isn't possible, then write not possible and explain why. If it is possible, then draw the figure.

- a) A triangle with sides of 12 cm and 7 cm. The third side can be a length so that the angle opposite the 7 cm side measures 30 degrees.
- b) A triangle that fits the same description as above but looks different.
- c) A triangle with sides of 12 cm and 4 cm. The third side can be a length so that the angle opposite the 4 cm side measure 30 degrees.

- d) A triangle with three angles that each measure 60 degrees and all sides equivalent.
- e) A quadrilateral with angles that measure 70, 80, 90 and 100 degrees.
- f) A quadrilateral with sides that measure 4,8,9 and 15 meters.
- g) A triangle with angles that measure 20, 70 and 90 degrees.
- h) A triangle with sides that measure 5, 12, and 13 cm.
- i) A triangle with sides that measure 4, 6, and 11 cm.
- j) A quadrilateral with sides that measure 3, 4, 5, and 15 cm.
- k) A closed shape with no angles.
- l) A quadrilateral with three angles each measuring 120 degrees.
- m) A triangle with two angles measuring more than 85 degrees.
- n) Paul lives 2 miles from Rita, and Rita lives 3 miles from the shopping mall.
What are the shortest and longest Distances Paul could live from the mall?
- o) Sharon has some boards that measure 3, 4, and 8 feet. Without cutting any of the boards, can Sharon wall off an area in her yard to use as an herb garden? Draw and explain.

Pre 7.3d

Polygon Angles

1) How can you prove that a triangle's angles add to 180 degrees and that a quadrilateral's angles add to 360 degrees?

Be prepared to share your groups' method.

2) Is there a pattern for the sums of angles in polygons? Is the pattern related to the number of sides?

s # of sides in a polygon	d sum of the polygon angles
3 (triangle)	180 degrees
4 (quadrilateral)	_____
5 (pentagon)	_____
6 (hexagon)	_____
7	_____

How can you prove your pattern?

What could you do with the number of sides to figure out the total degrees of the angles for any polygon? Total degrees (d) = _____