Recipe for geometry

Ingredients: Some points, a number of lines, angles, parallel lines, different triangles (some of them should be ripe for congruence), a bunch of quadrilaterals, and circles of every size.

First take a point to show location (can't use them any other way), and, with another point, form a line. Notice that the line is showing one dimension only (length.)

Now take two more points and form another line. Do it carefully. Making sure the lines are straight, place one line crossing over the other and voila!, they join at a point while angles are formed right in front of your eyes. Because now you have what could be called a rudimentary pair of "scissors", open and close the scissors and when they form a perfect cross, four perfectly formed right angles will form. Placing the scissors at any other position will give you two pairs (4) of equal, vertical angles: two acute (less than 90º and two obtuse (greater than 90º).

Take the "scissors" apart and place one end of each line touching each other, but not in a straight line. Now take another two points, form a line, and place it between the other end-points of the first two lines. This is what a triangle looks like. Notice that a triangle is the simplest figure with two dimensions.

To really make use of triangles, you need to classify them. Triangles are easier to handle if you classify them by angle, or by side. By angle: If you see a triangle having one 90º angle, call it right (does not like to be called wrong), but if one angle is greater than 90º, call it obtuse (obtuse means dull, like your Uncle Albert). If all three angles are less than 90º, call it acute. By side: If all three sides are equal, it is an equilateral Δ; if only two sides are equal, it is an isosceles Δ; if all three sides are different, it is a scalene Δ. Because triangles are very yummy, you'll see them popping up everywhere. The Greeks enjoyed them in all shapes and sizes, as seen by their classical architecture. Triangles that are equal in form and size are said to be congruent (an ugly sounding name, but it digests well), and if they only look alike, call them similar, they will not be offended. If at this time you want to make a solid—remember that so far we have only looked at two dimensions—out of a two-dimensional triangle, take another point from the freezer (it needs to be solid), and place it anywhere, except on the same plane as the triangle you have now. Take from the freezer three lines (remember, it's a solid) and join the new point with the other three points that make the vertices of the triangle. This solid form is from the polyhedron family and the Egyptians loved them; there they called them pyramids. Polyhedrons add the final dimension (volume) found in space, the third one. Physicists go around calling "time" a fourth dimension, but we physicalist phreaks don't accept that: time should only be called when playing a dangerous sport.

By now you are probably fresh out of points, so at the moment lines will have to do. Take out one line (presently even a smelly one will work), open one vertex of a triangle and force it there to make a four-sided figure. This one is called a quadrilateral (tetragon where it came from). The most edible quadrilaterals are the perennial square, the rhombus, the rectangle, the parallelogram, and the trapezoid. Because you only need two parallel lines, the easiest quadrilateral to put together is the trapezoid. The parallelogram is next because two sets of parallel lines are needed (some of these are hard to find in the summer). If you force the parallelogram to stand up straight like in the army, it becomes a rectangle, but if you leave him leaning with all four sides equal like an inebriated Aunt Clara, change the name to rhombus, otherwise it will sell at a lower price. Now, if you want the perfect figure, one that stands straight, is even, and efficient, make the rhombus stand straight and the square is born.

Because this a recipe, I tried to leave π for the end to enjoy as dessert. And this is what brings us around (pun intended) to the circle. A circle is different from the rest because you need π for it. Moreover, in geometry the circle is totally tied up to the lines, angles, triangles, and quadrilaterals you have been reading about. When we study circles, its lines have different names: radius, diameter, chord, secant, tangent. And so do the angles: central, inscribed... anyway, like Noah told the Lord: Space is running out and I have to wrap THIS up! Or like Oldman Euclid (he'll turn 2,331 next month) used to say: Happy geometring!