1 What is a measurement?

1. Describe at least three different measurements that we could use to measure collections of points in a plane.

2. Describe at least three different measurements that give us information about circles.

3. Describe at least three different measurements that we could use to measure cubes.

2 Dimensional Dilemmas

Many questions make sense in any number of dimensions, but the difficulty of the problem may change drastically depending on the number of dimensions. Consider the following examples:

(Note: In each problem below, \( n \) is some whole number. Try answering the problem when \( n \) is equal to 1, 2, 3, 4, &c., and look for a pattern.)

1. If we draw \( n \) distinct points on a line, how many regions is the line broken into?

2. If we draw \( n \) distinct lines onto a plane, what is the largest number of regions that the plane will be broken into? (Why do we need to ask about the “largest” number of regions in this case?)
3. If we draw $n$ distinct planes inside of a 3-dimensional space, what is the largest number of regions that the space will be broken into?

3 definitions

Study the following definitions from your textbook before the next class:

1. point
2. line
3. segment
4. ray
5. plane
6. collinear and non-collinear
7. congruent (for segments)
8. quantity