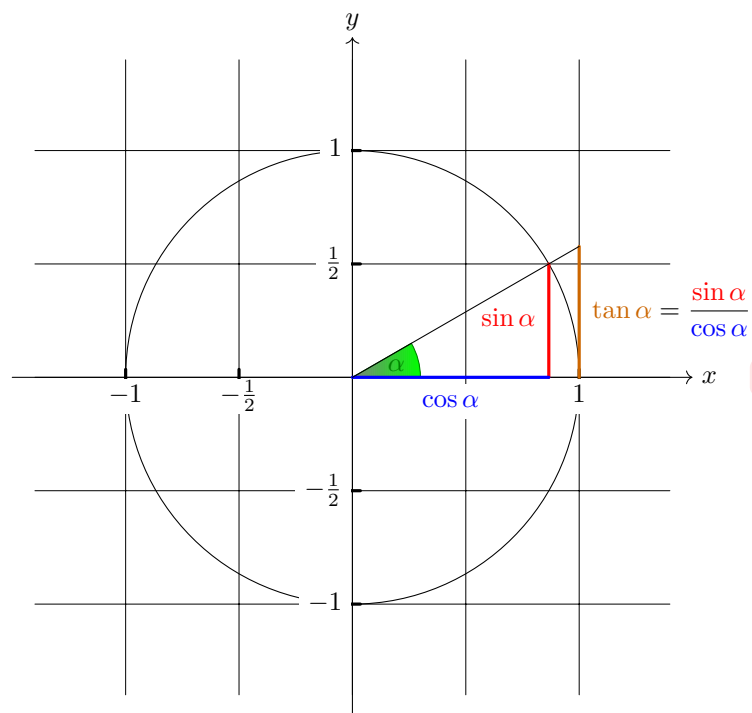


## 1 Karl's graph

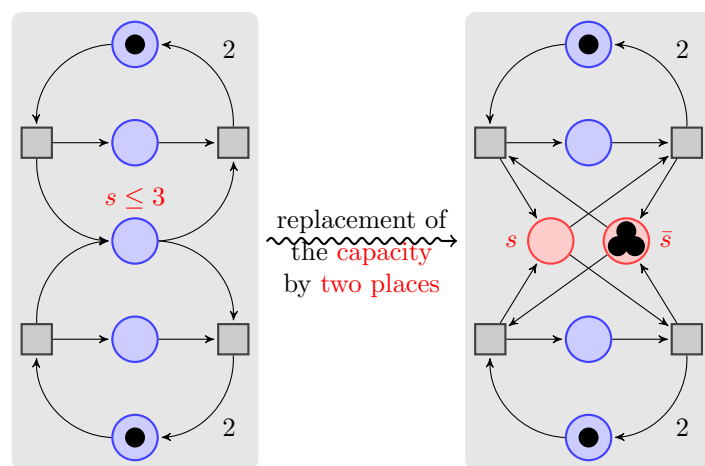


The angle  $\alpha$  is  $30^\circ$  in the example ( $\pi/6$  in radian). The sine of  $\alpha$  which is the height of the red line is

$$\sin \alpha = 1/2.$$

By the theorem of Pythagoras,...

## 2 Petri Nets

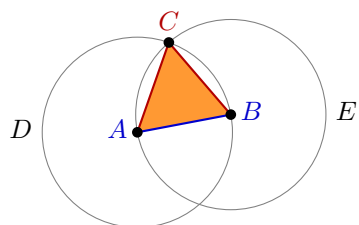


### 3 Book I, Proposition I

#### Proposition I

To construct an *equilateral triangle* on a given *finite straight line*.

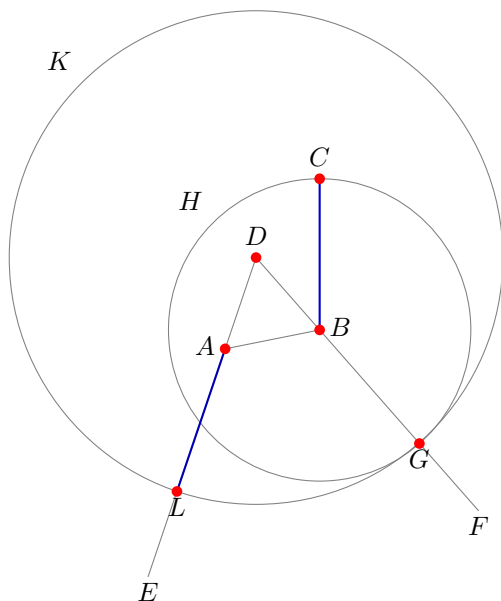
Let  $AB$  be the given *finite straight line*. ...



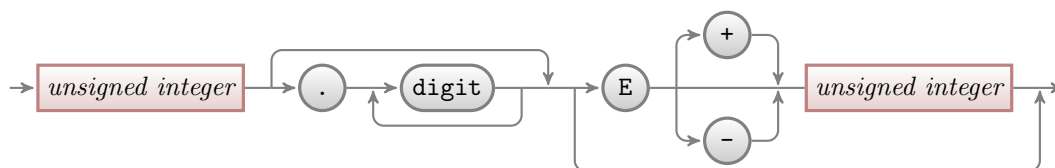
### 4 Book I, Proposition II

#### Proposition II

To place a *straight line* equal to a given straight line ...



### 5 Diagrams as Simple Graphs



## 6 Johannes Lecture Map



Lecture 1: **Computational Problems**

- Knowledge of several key problems
- Knowledge of problem encodings
- Being able to formalize problems

February 2020

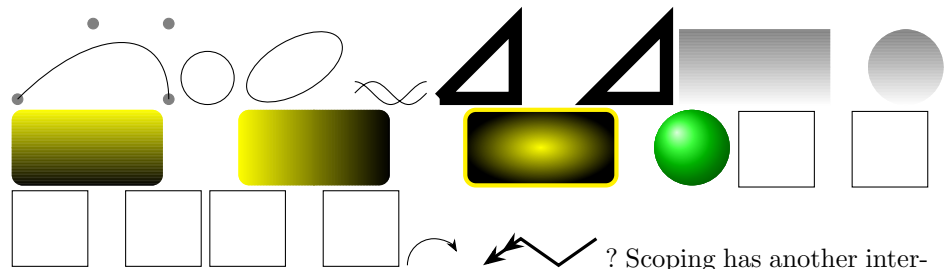
1  
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**Computational Problems**

March 2020

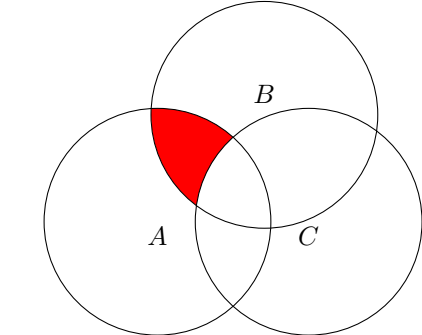
1

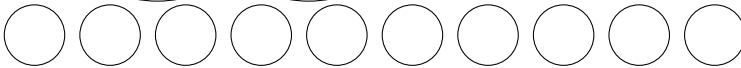
Curved Path Construction.



? Scoping has another interesting effect: Any changes to the clipping area are local to the scope. Thus, if you say `\clip` somewhere inside a scope, the effect of the `\clip` command ends

after the end of that scope.   $x = 1, x = 2, x = 3,$



 We can also nest loops to create interesting effects.

1,5	2,5	3,5	4,5	5,5
1,4	2,4	3,4	4,4	5,4
1,3	2,3	3,3	4,3	5,3
1,2	2,2	3,2	4,2	5,2
1,1	2,1	3,1	4,1	5,1

7,5	8,5	9,5	10,5	11,5	12,5
7,4	8,4	9,4	10,4	11,4	12,4
7,3	8,3	9,3	10,3	11,3	12,3
7,2	8,2	9,2	10,2	11,2	12,2
7,1	8,1	9,1	10,1	11,1	12,1

Labeling examples using TikZ.

