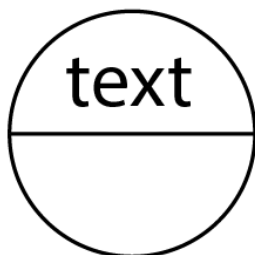
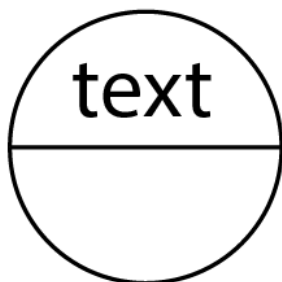
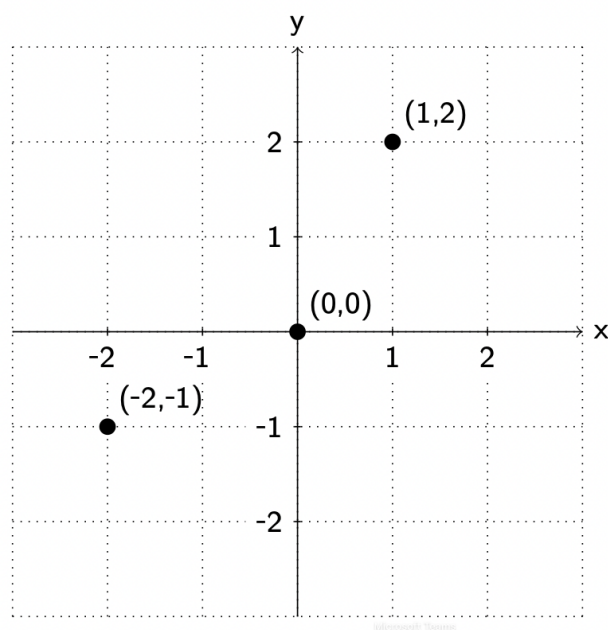
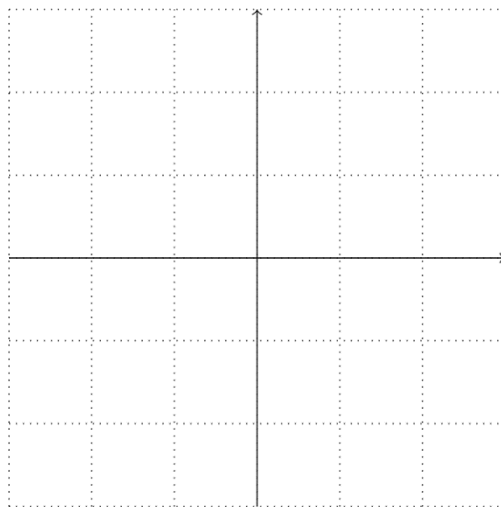
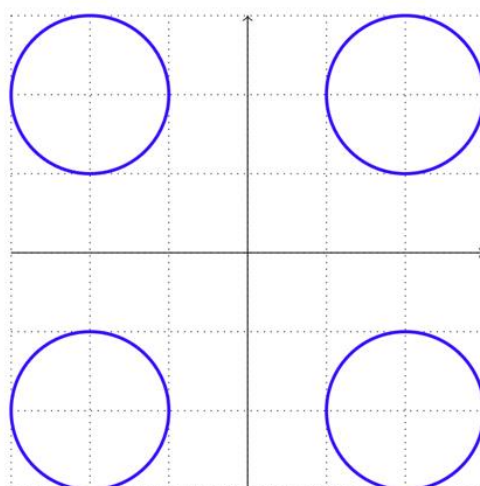
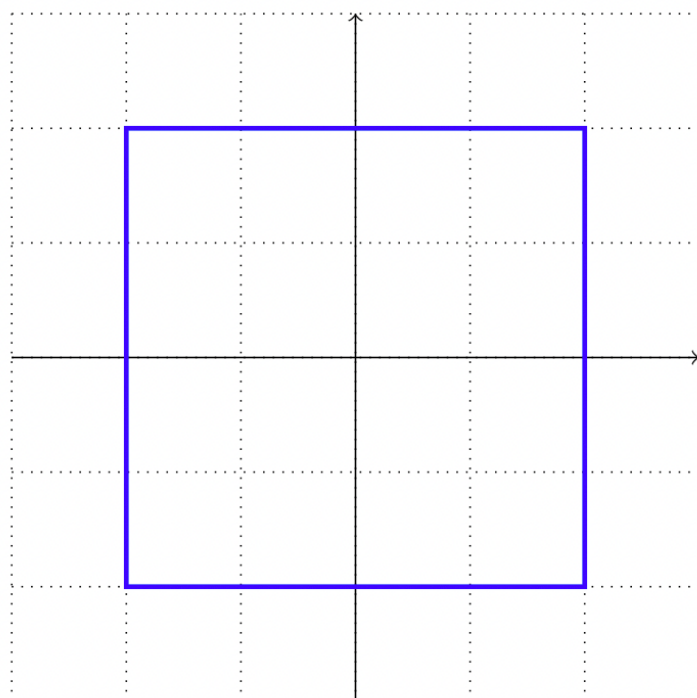


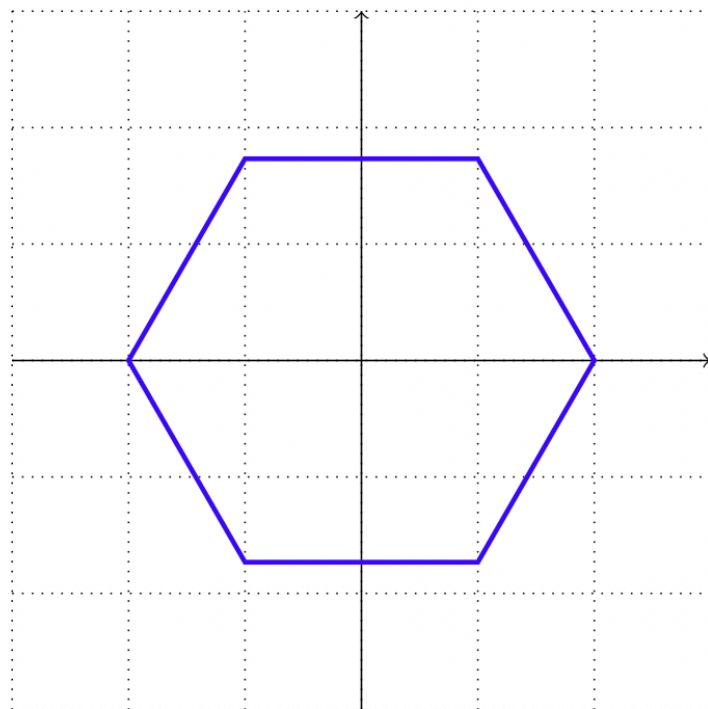
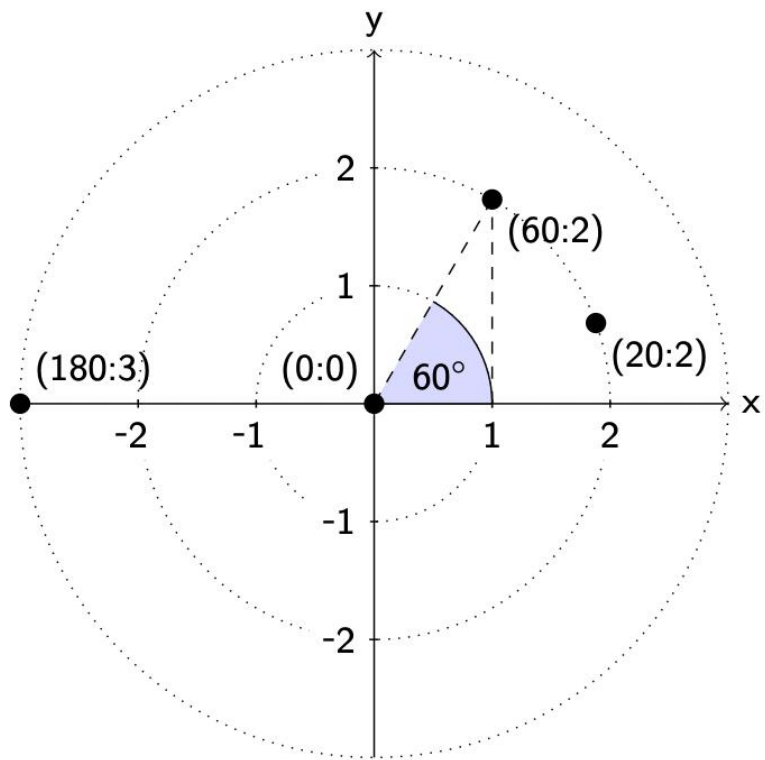
## Chapter 1: Getting Started with TikZ

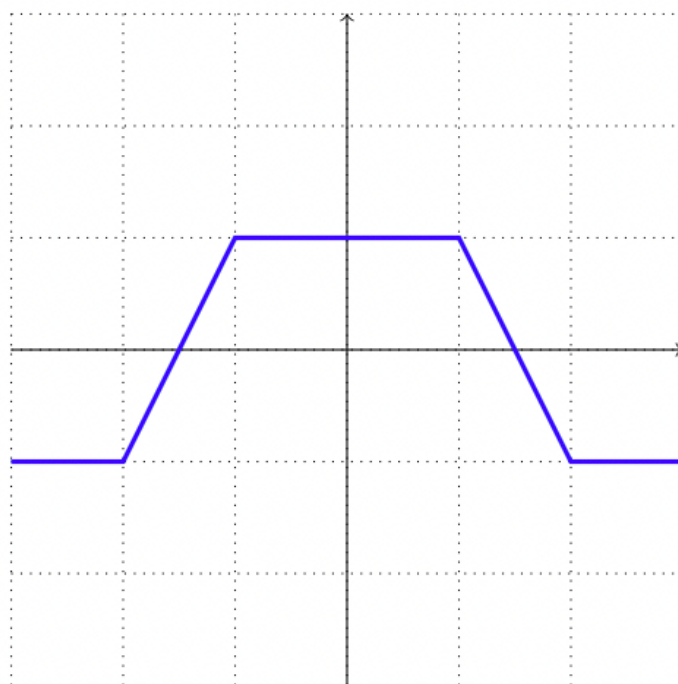
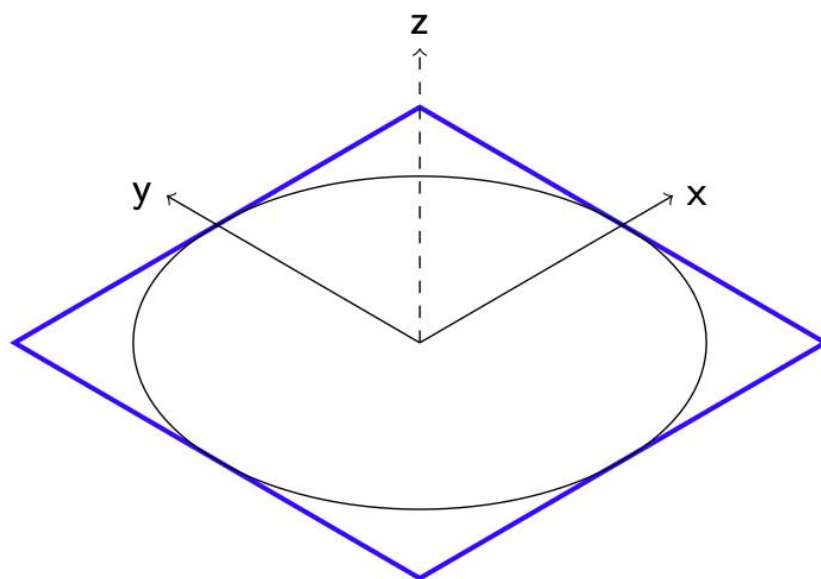


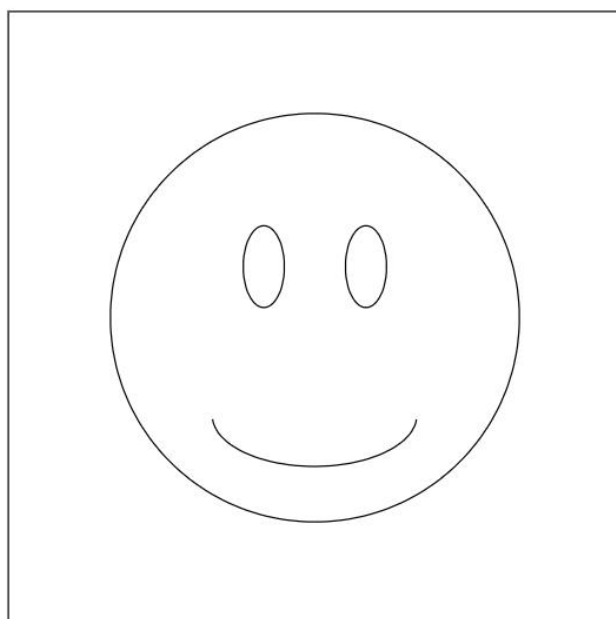
## Chapter 2: Creating the First TikZ Images











## Chapter 3: Drawing and Positioning Nodes

TikZ

rectangle

ellipse

circle

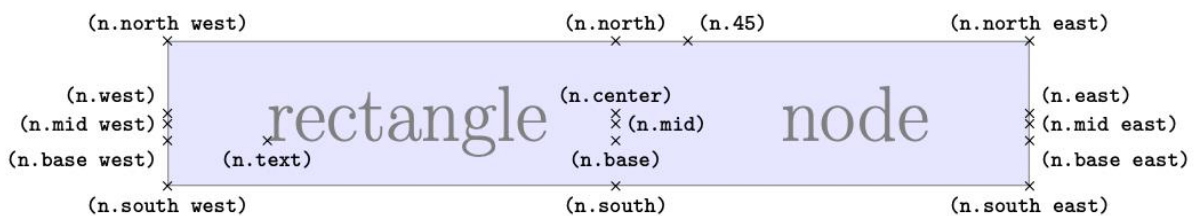
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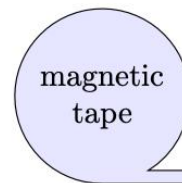
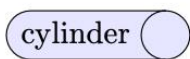
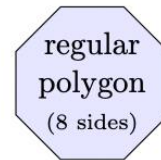
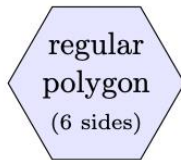
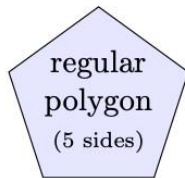
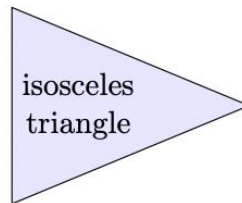
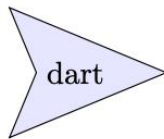
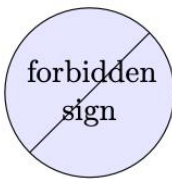
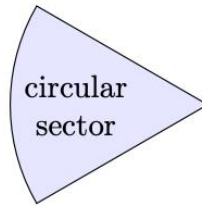
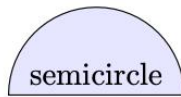
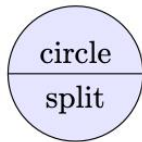
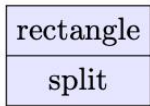
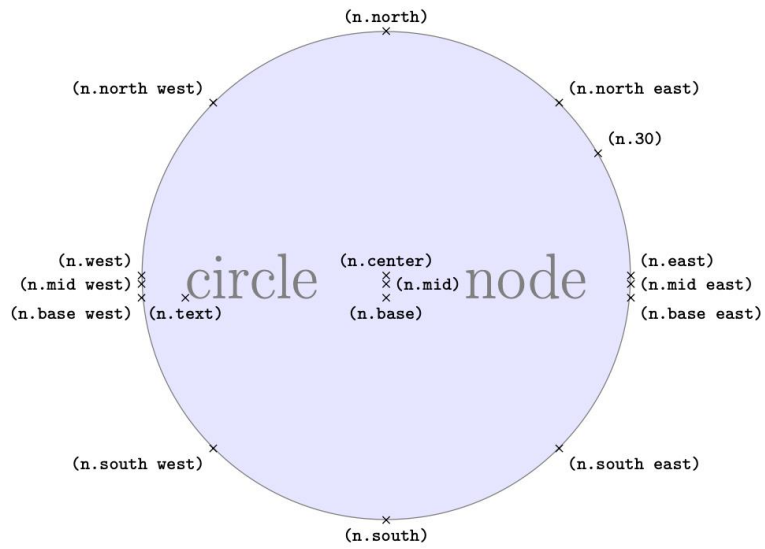
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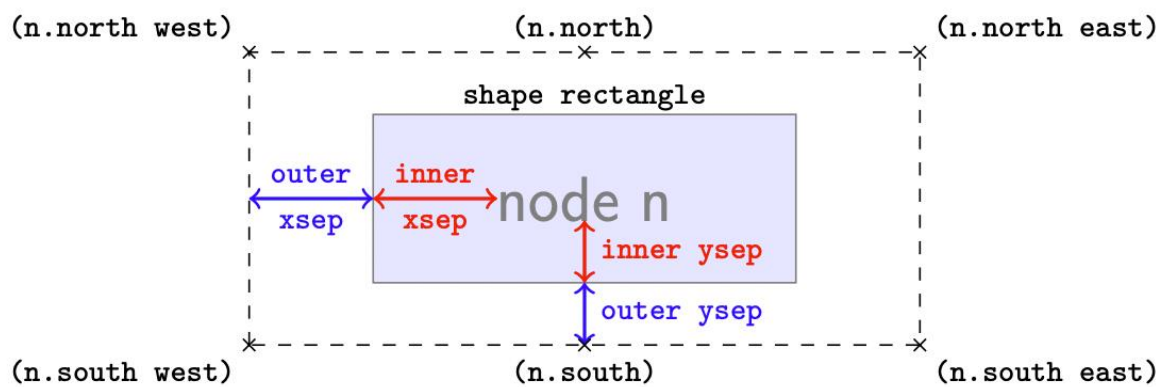
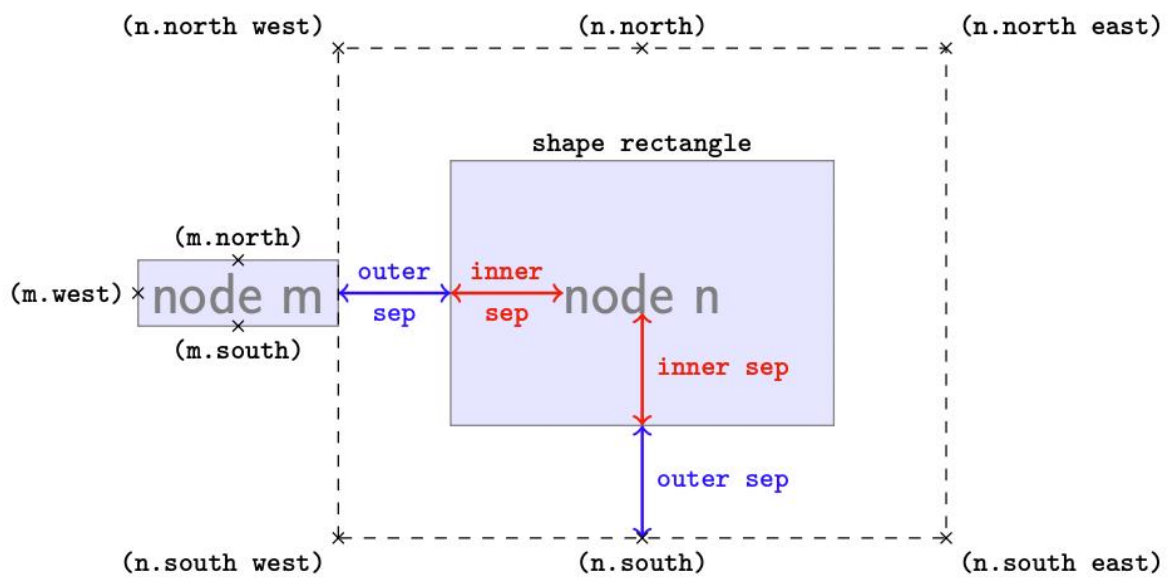
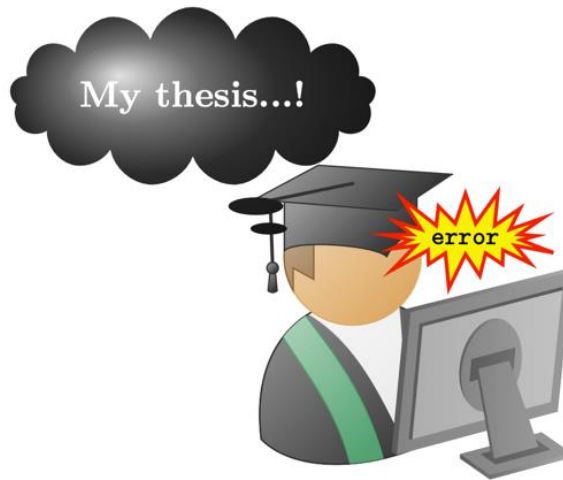
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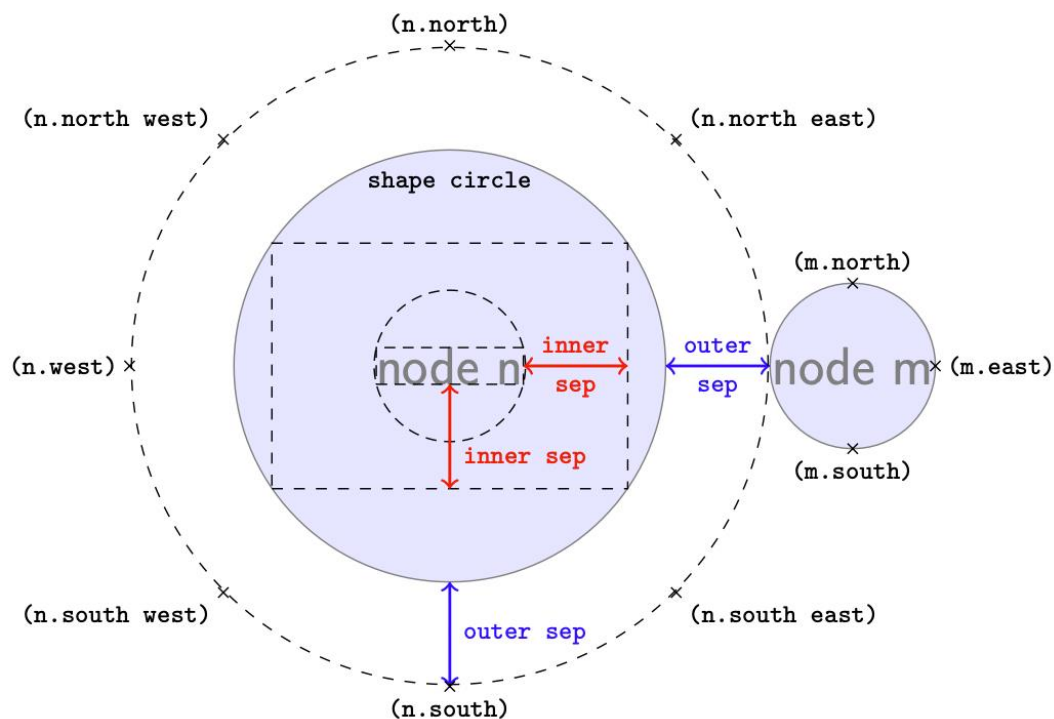
rectangle

rectangle









text  
○

TikZ PDF

TikZ PDF

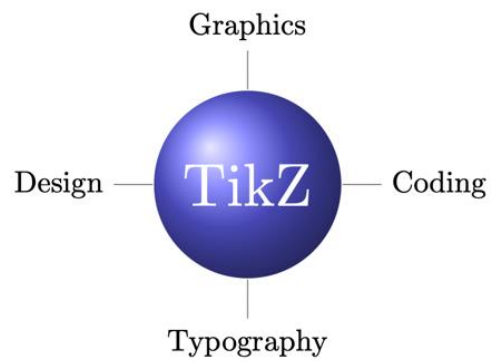
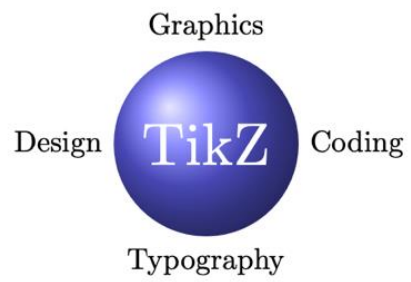
0 0.5 1  
0.25 0.75

EPic.  
Epic.

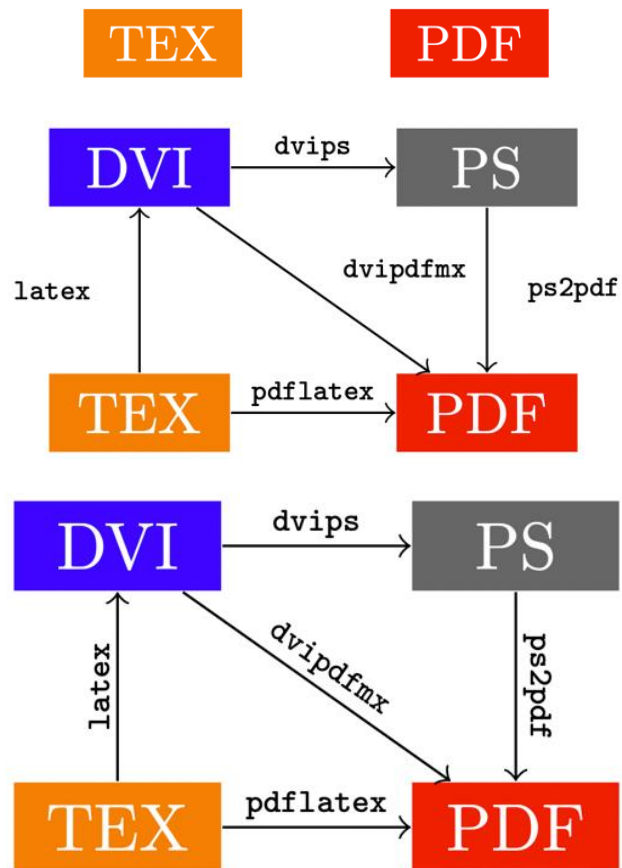
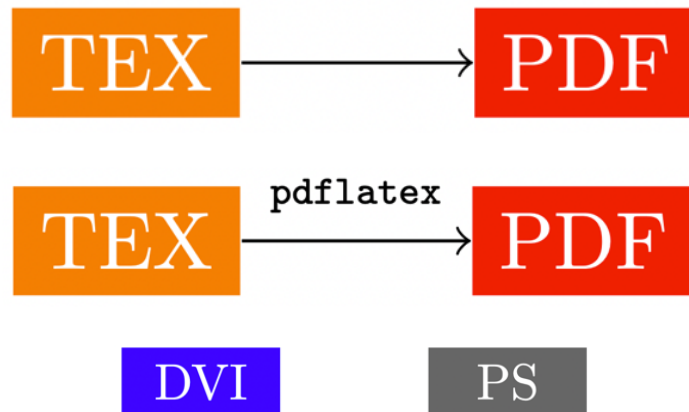
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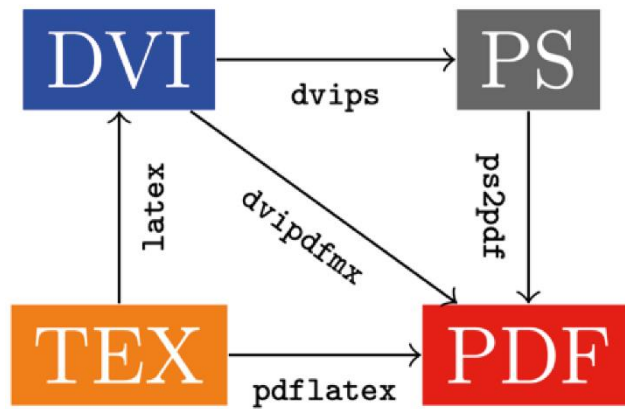
① This is the first topic.

- 1 First item
- 2 Second item
- 3 Third item
- 4 Fourth item



## Chapter 4: Drawing Edges and Arrows





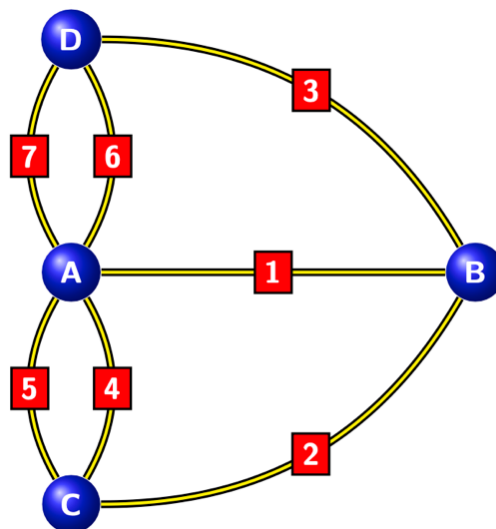
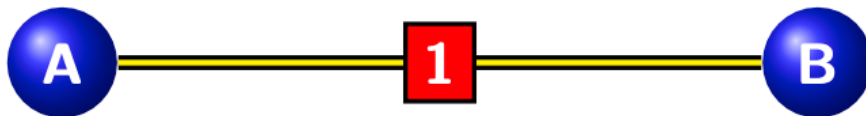
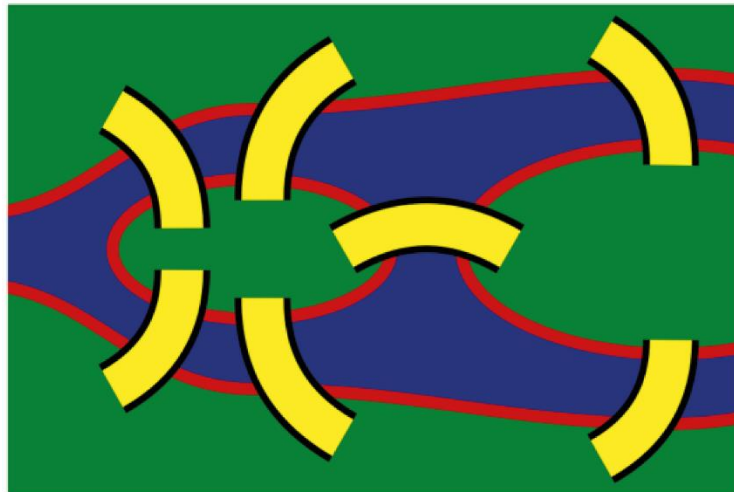
→ Classical TikZ Rightarrow  
 → Computer Modern Rightarrow  
 ⇒ Implies

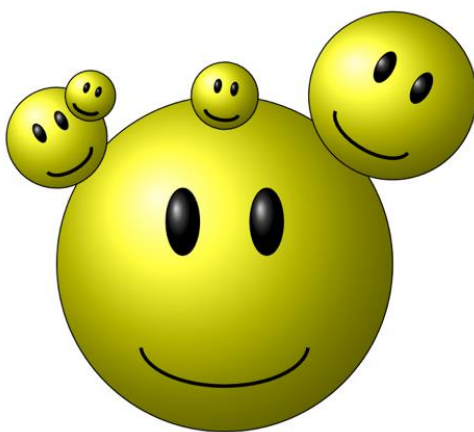
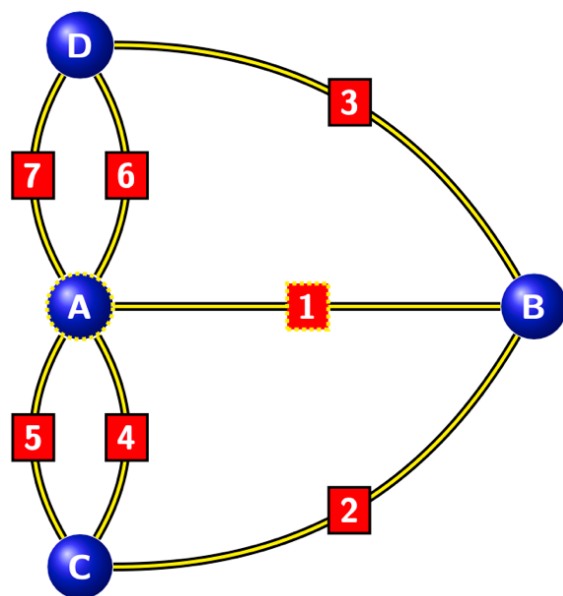
→ Arc Barb  
 → Bar  
 → Bracket  
 → Hooks  
 → Parenthesis  
 → Straight Barb  
 → Tee Barb  
  
 →● Circle  
 →◆ Diamond  
 →● Ellipse  
 →▶ Kite  
 → LaTeX  
 →■ Rectangle  
 →■ Square  
 → Stealth  
 → Triangle  
 →◆ Turned Square

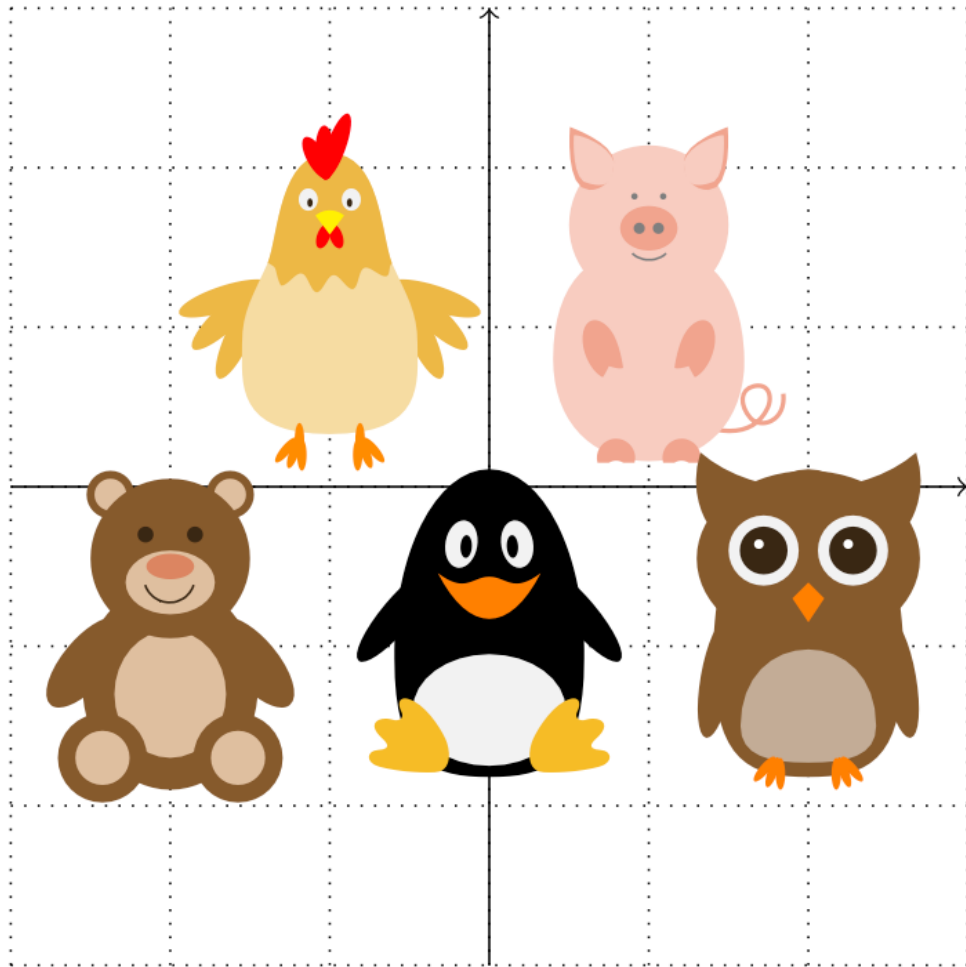
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 →▶ Triangle[open]  
 →◇ Turned Square[open]



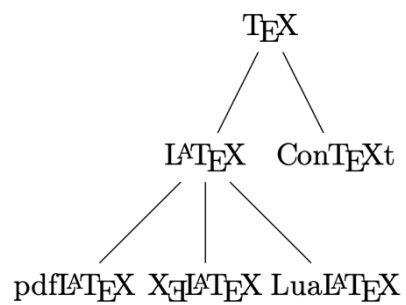
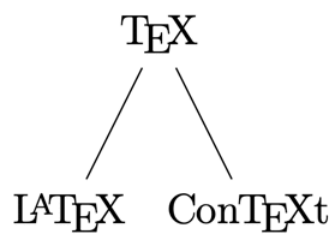
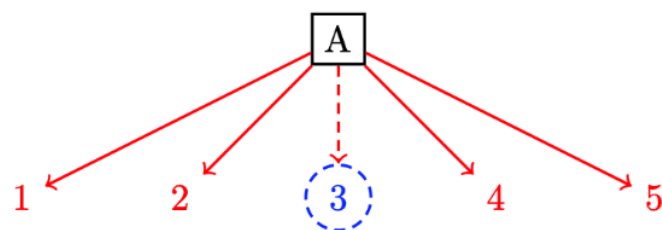
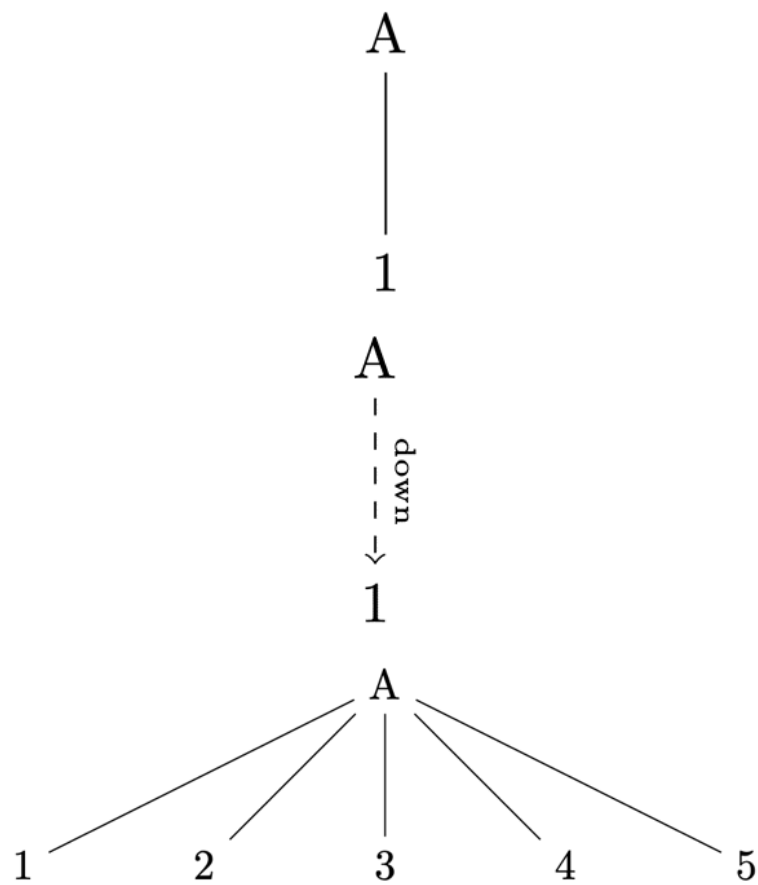
## Chapter 5: Using Styles and Pics

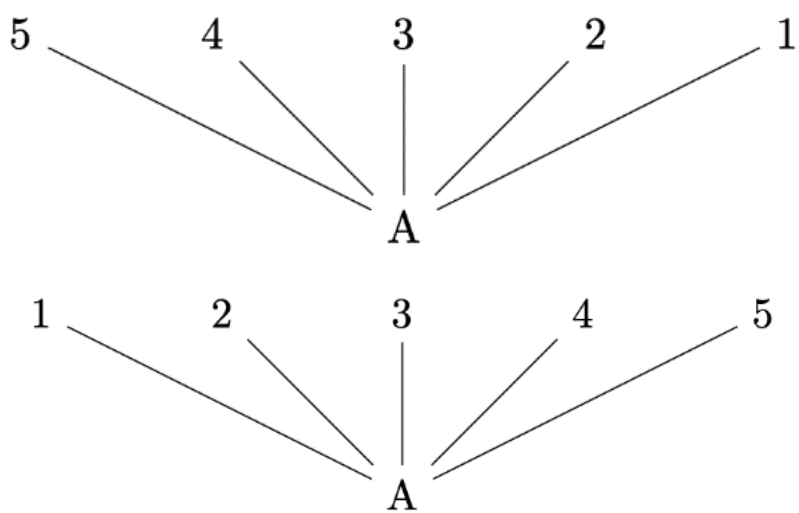
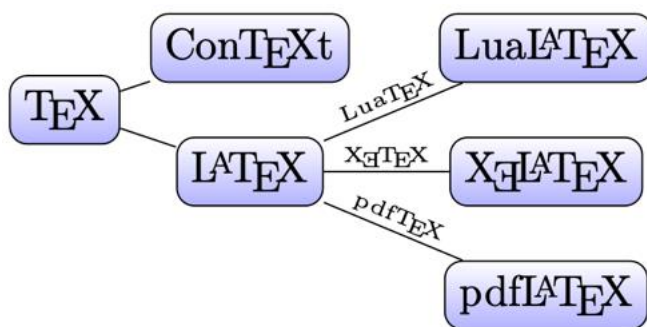
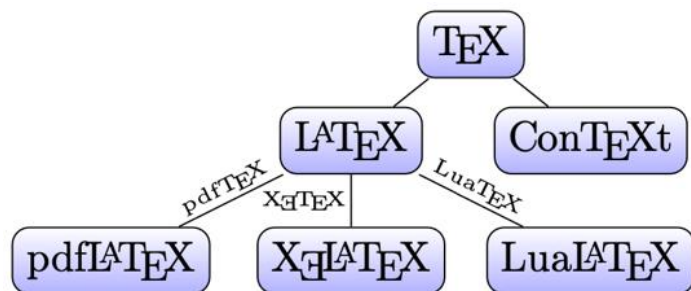
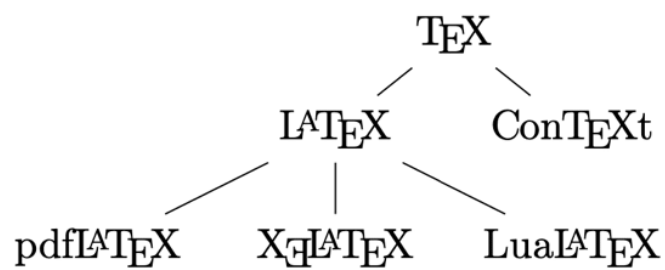


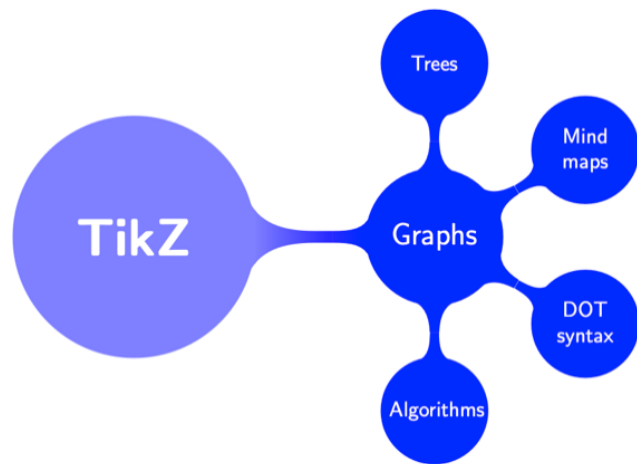
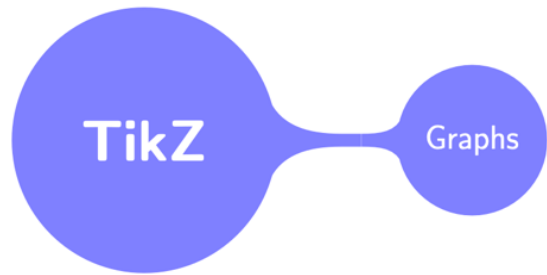
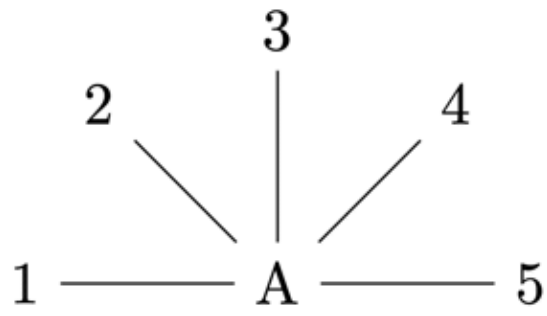


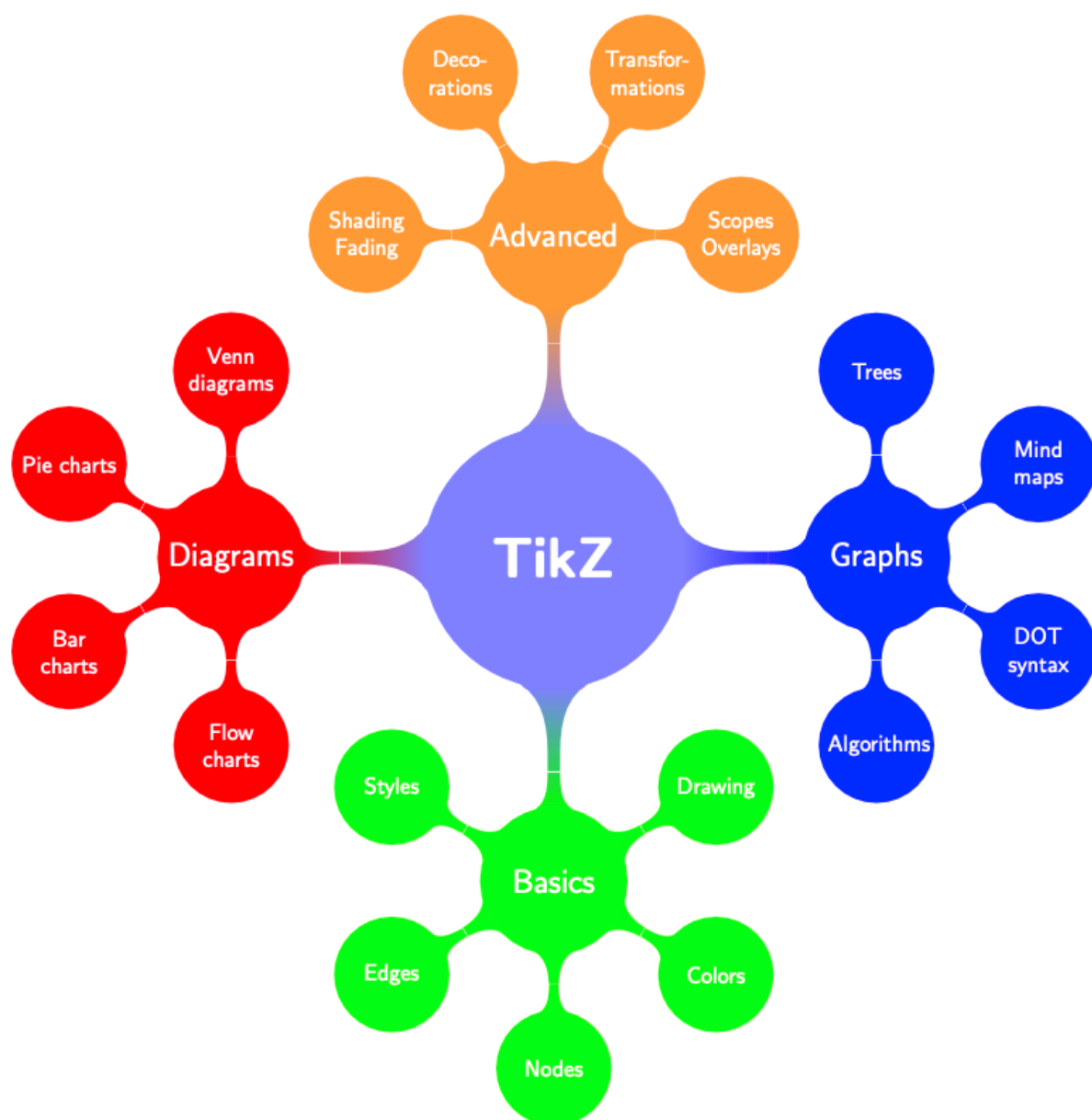


## Chapter 6: Drawing Trees and Graphs









$\text{tex} \rightarrow \text{dvi} \rightarrow \text{ps} \rightarrow \text{pdf}$

$\text{tex} \rightarrow \text{dvi} \rightarrow \text{ps} \rightarrow \text{pdf}$

↑

$\text{bib} \rightarrow \text{bbl}$

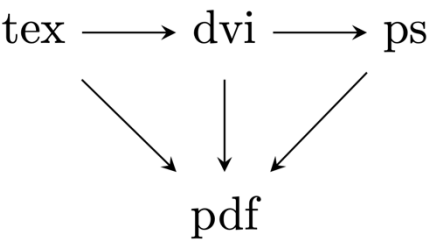
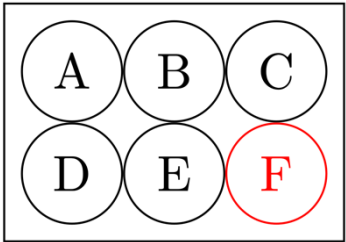
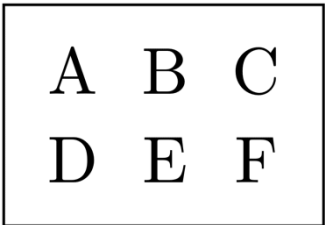
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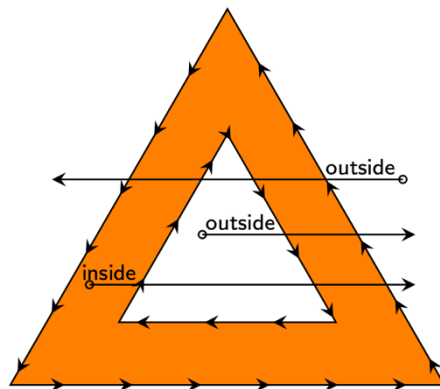
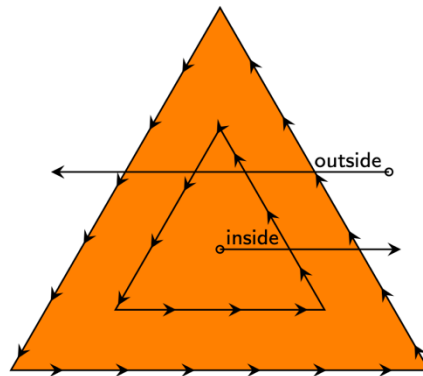
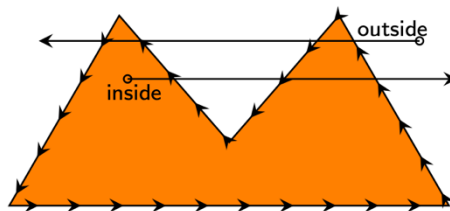
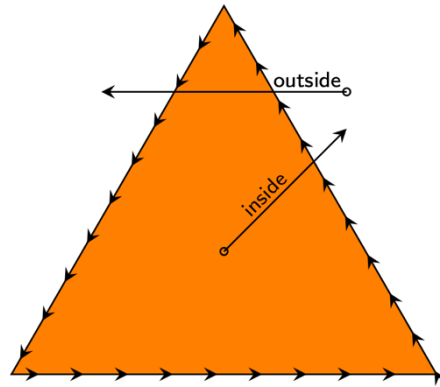
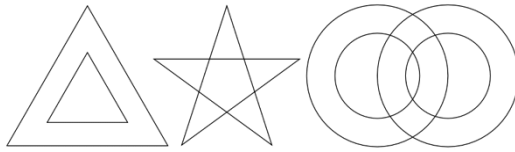
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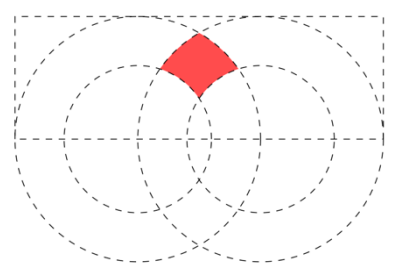
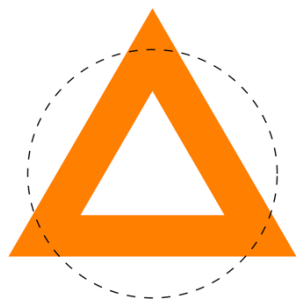
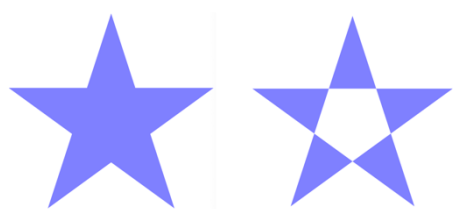
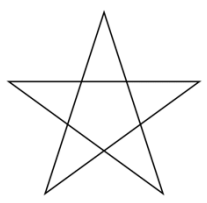
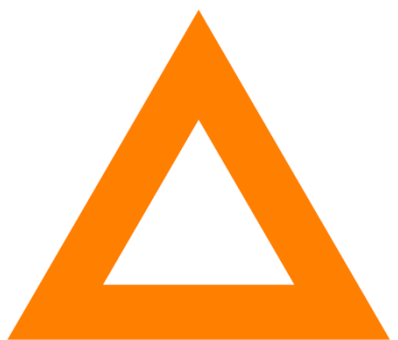
tex → dvi → ps → pdf

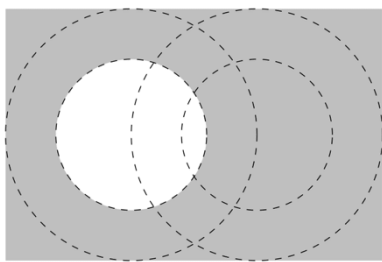
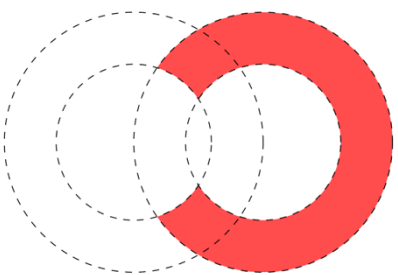
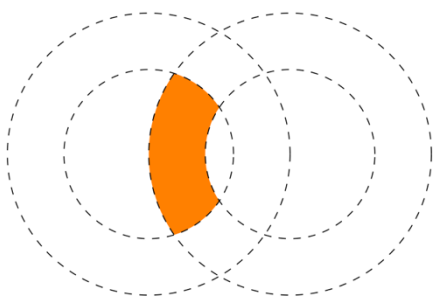
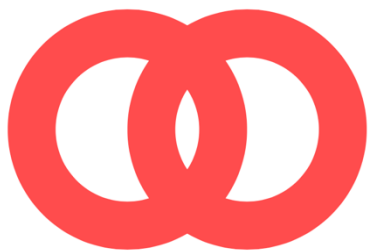
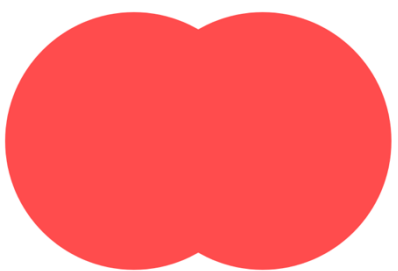
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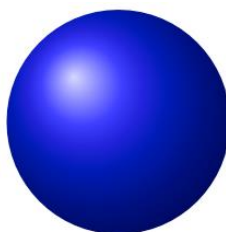
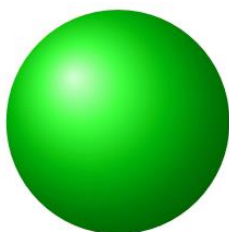
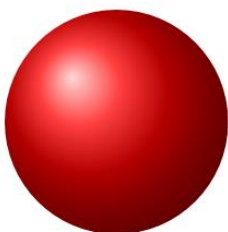
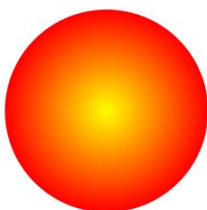
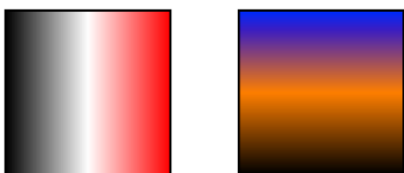
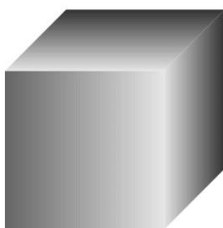
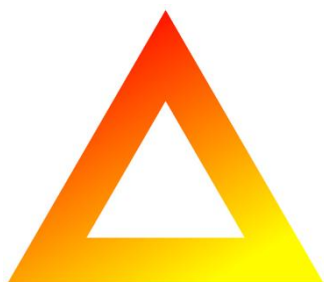
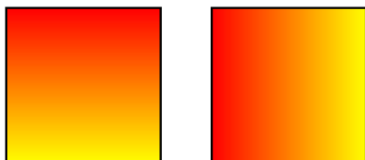
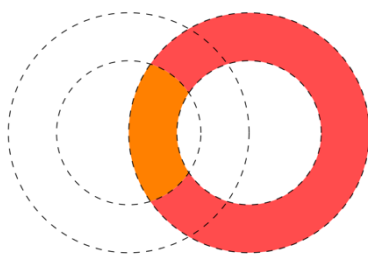


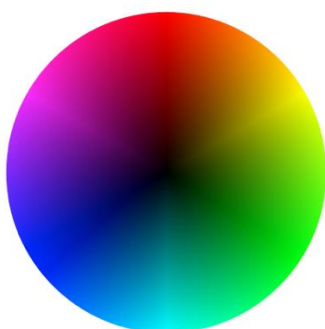
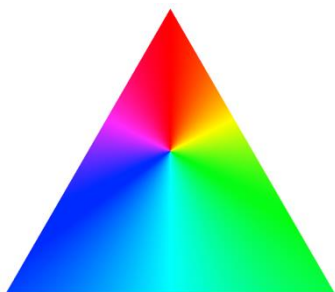
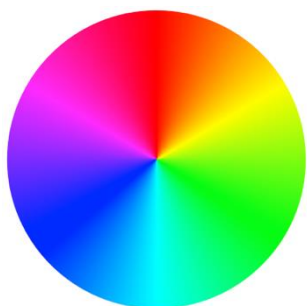
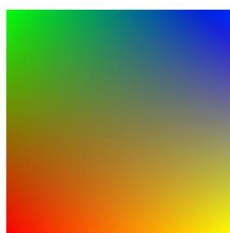
## Chapter 7: Filling, Clipping, and Shading

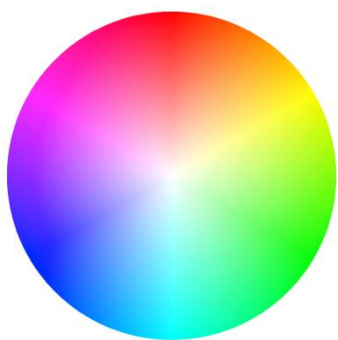




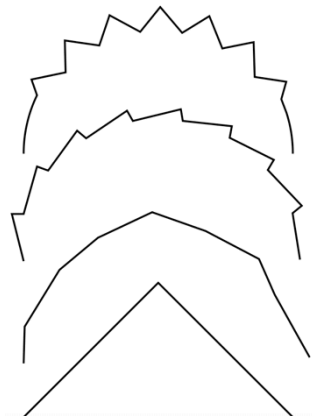
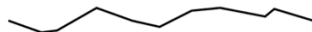
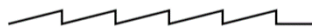
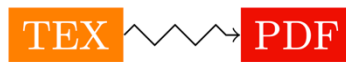
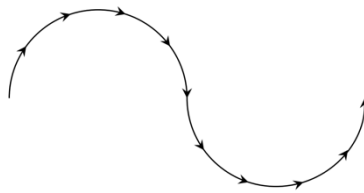
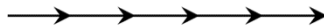
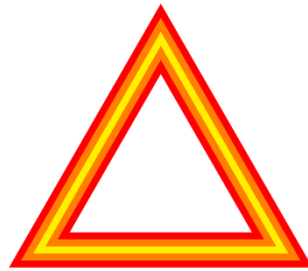
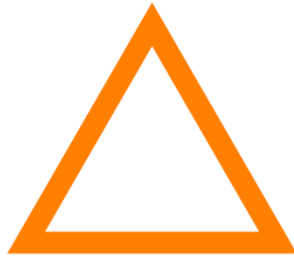


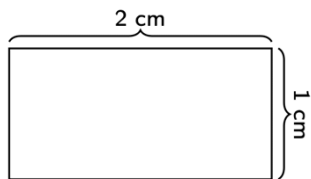
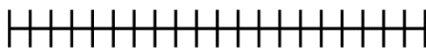
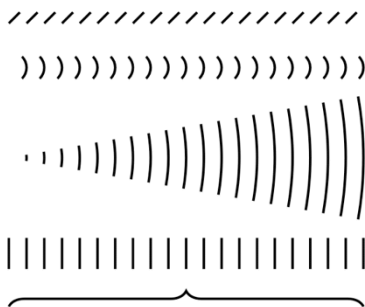
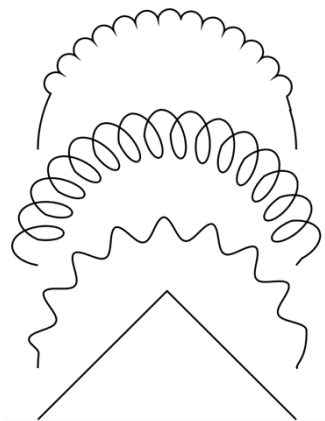
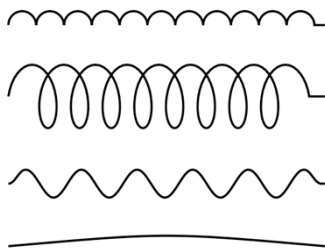






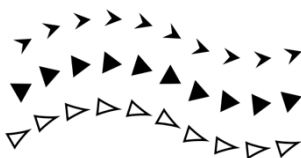
## Chapter 8: Decorating Paths

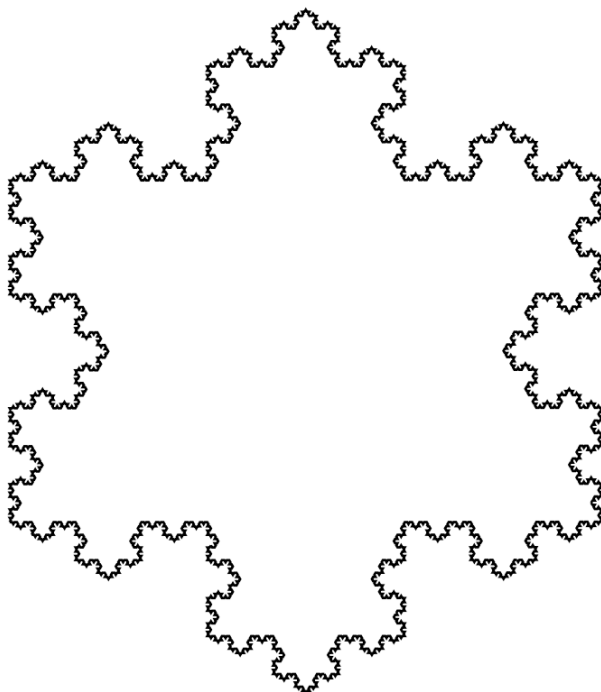
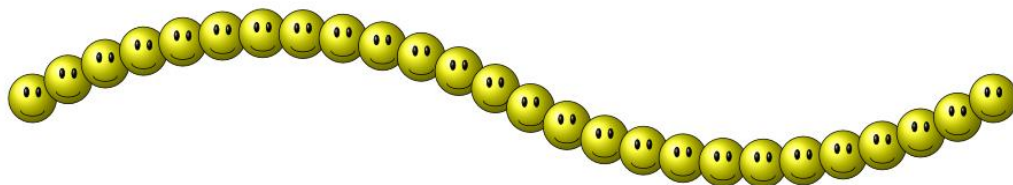
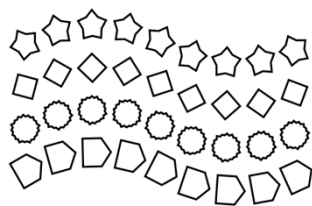




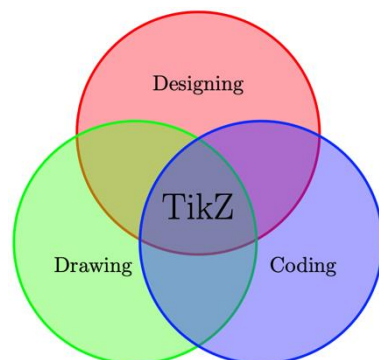
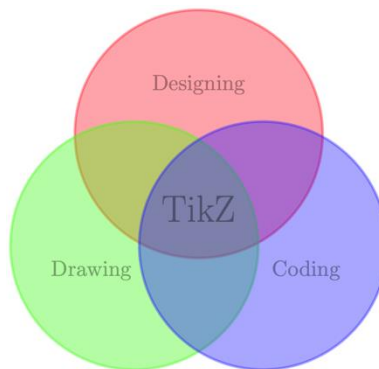
text follows the path

This is a long text along a path





## Chapter 9: Using Layers, Overlays, and Transparency





$$\begin{pmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \\ 7 & 8 & 9 \end{pmatrix} \xrightarrow{\text{Transpose}} \begin{pmatrix} 1 & 4 & 7 \\ 2 & 5 & 8 \\ 3 & 6 & 9 \end{pmatrix}$$

$$\begin{pmatrix} 1 & 2 & 3 \\ 4 & \boxed{5 \ 6} \\ 7 & \boxed{8 \ 9} \end{pmatrix} \xrightarrow{\text{Transpose}} \begin{pmatrix} 1 & 4 & 7 \\ 2 & \boxed{5 \ 8} \\ 3 & \boxed{6 \ 9} \end{pmatrix}$$

$$\begin{pmatrix} 1 & 2 & 3 \\ 4 & \boxed{5 \ 6} \\ 7 & \boxed{8 \ 9} \end{pmatrix} \xrightarrow{\text{Transpose}} \begin{pmatrix} 1 & 4 & 7 \\ 2 & \boxed{5 \ 8} \\ 3 & \boxed{6 \ 9} \end{pmatrix}$$

$$\begin{pmatrix} 1 & 2 & 3 \\ 4 & \boxed{5 \ 6} \\ 7 & \boxed{8 \ 9} \end{pmatrix} \xrightarrow{\text{Transpose}} \begin{pmatrix} 1 & 4 & 7 \\ 2 & \boxed{5 \ 8} \\ 3 & \boxed{6 \ 9} \end{pmatrix}$$

# 1 Heading on Level 1 (section)

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

## 1.1 Heading on Level 2 (subsection)

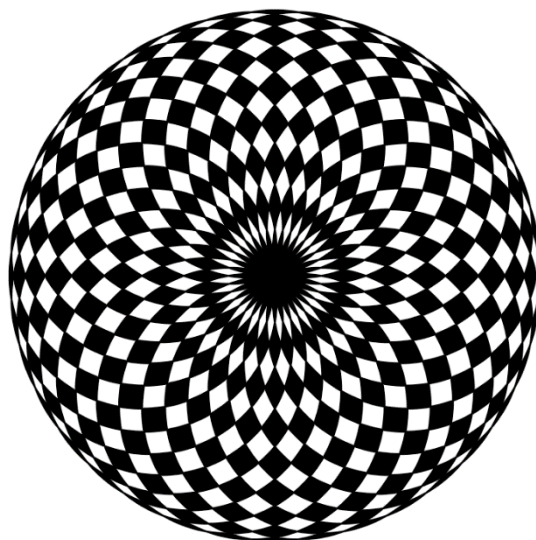
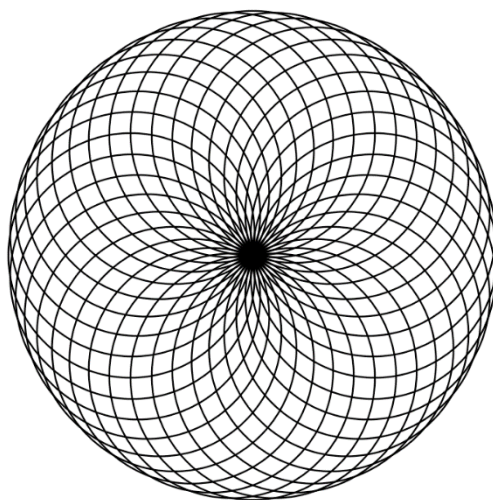
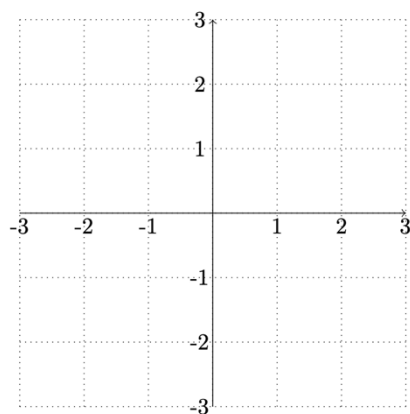
Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

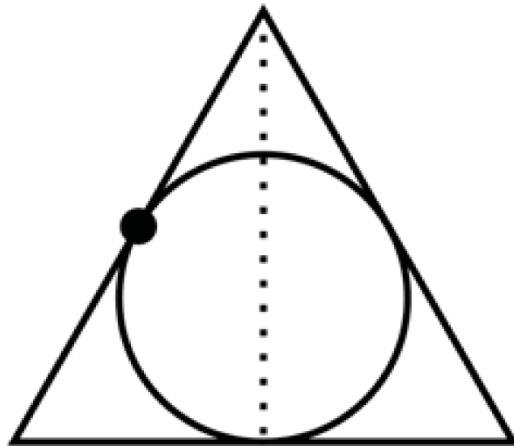
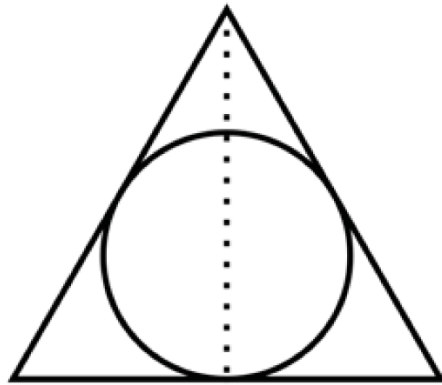
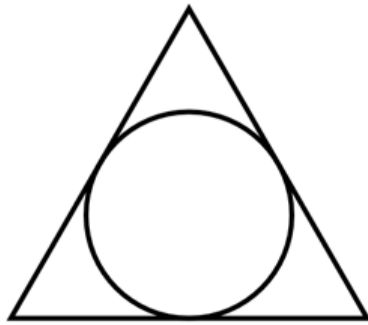
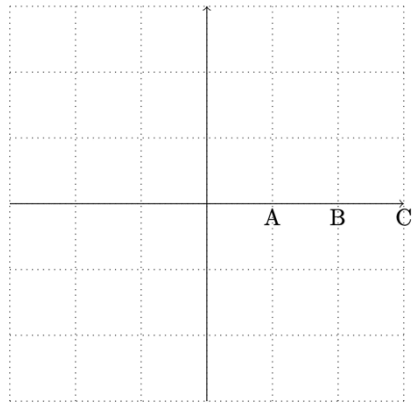
### 1.1.1 Heading on Level 3 (subsubsection)

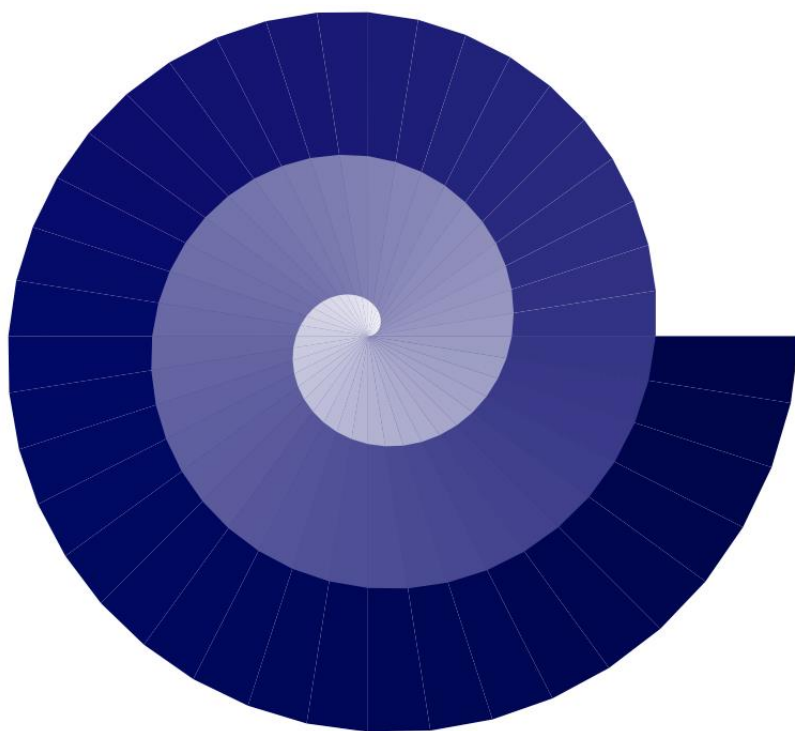
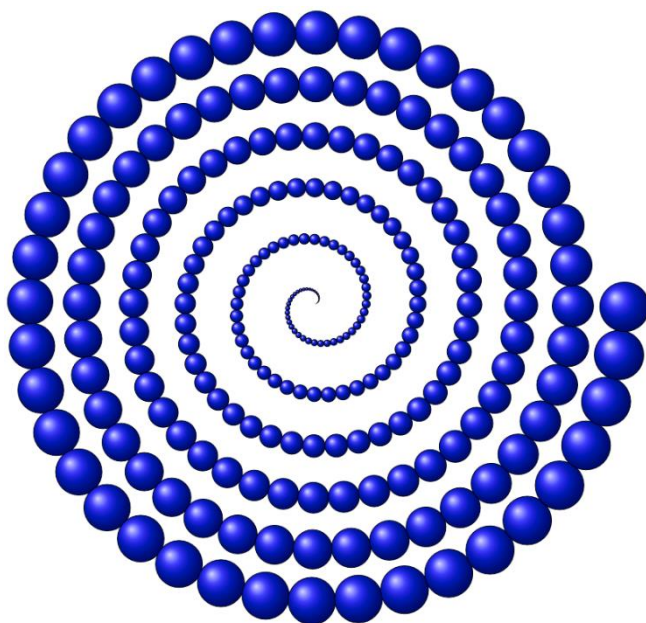
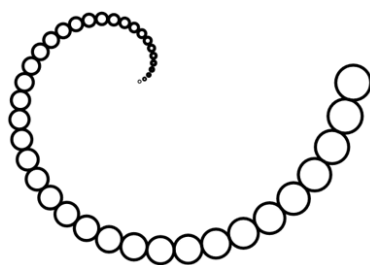
Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

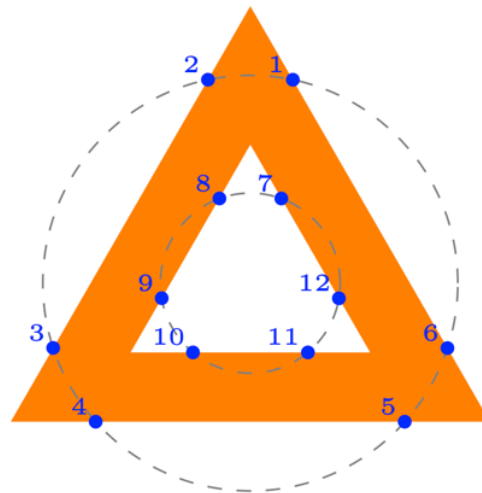
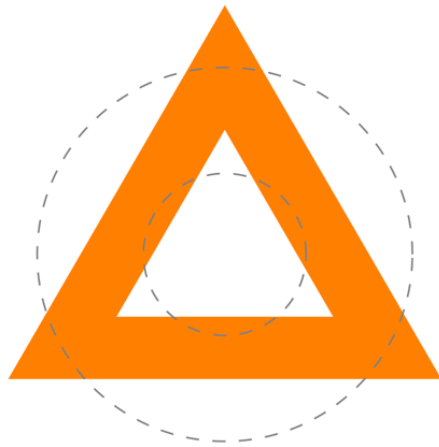
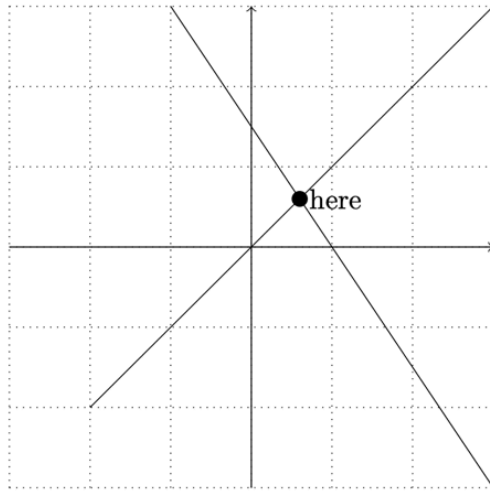
**Heading on Level 4 (paragraph)** Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

## Chapter 10: Calculating with Coordinates and Paths

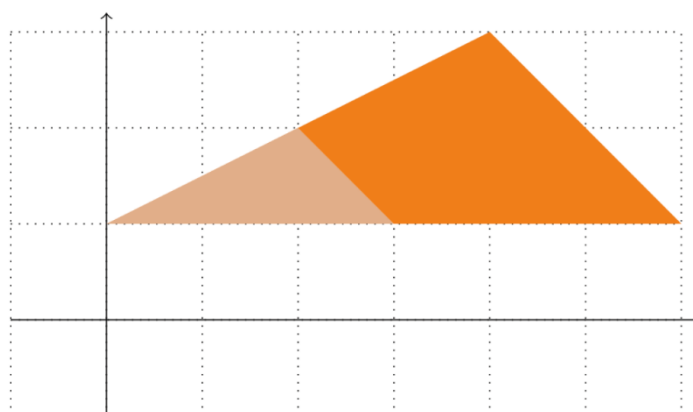
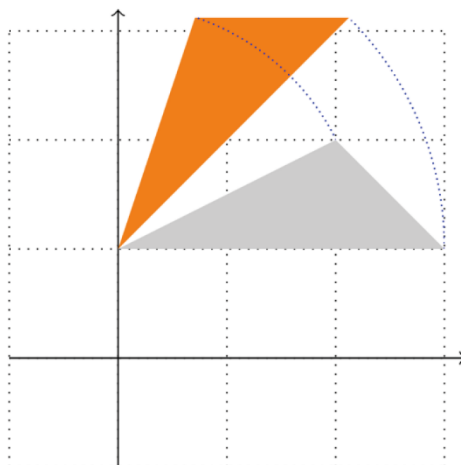
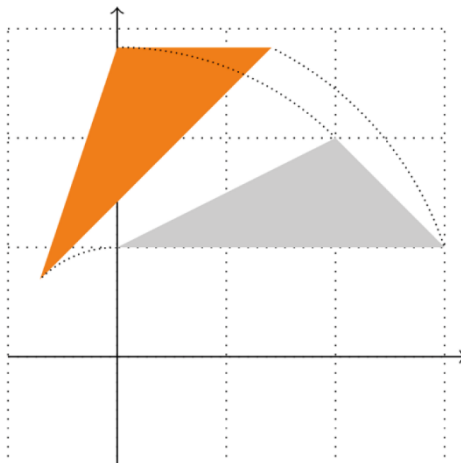


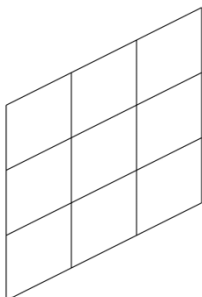
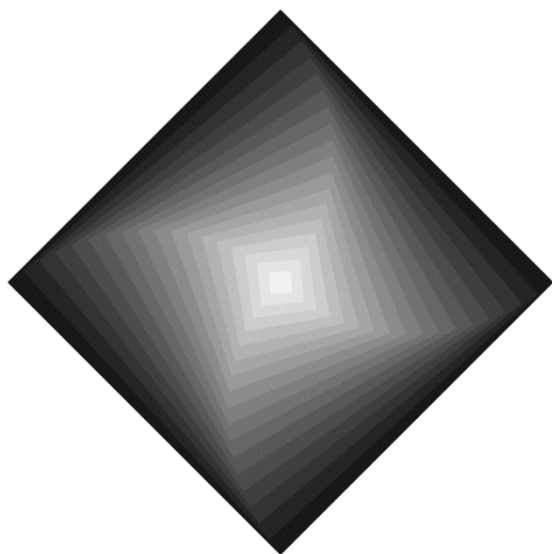
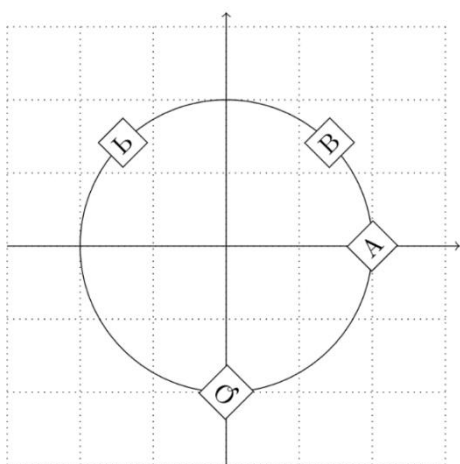






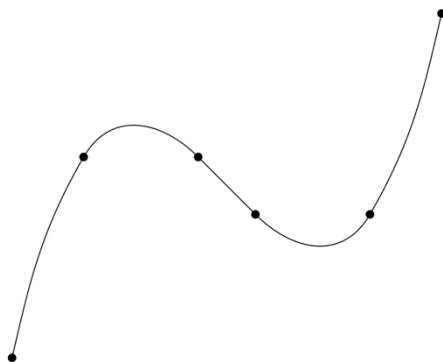
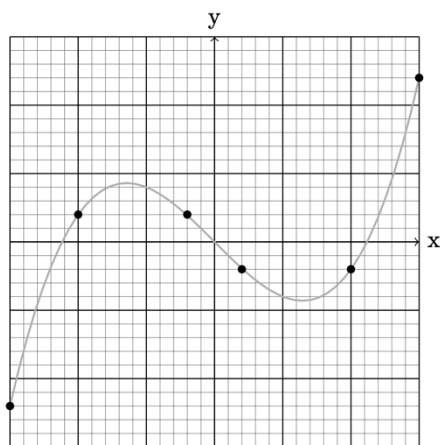
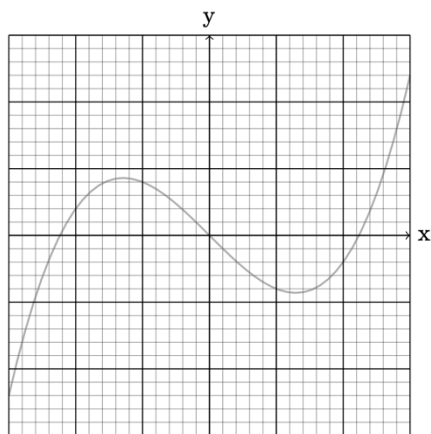
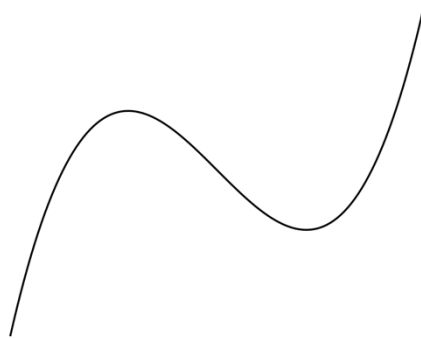
## Chapter 11: Transforming Coordinates and Canvas

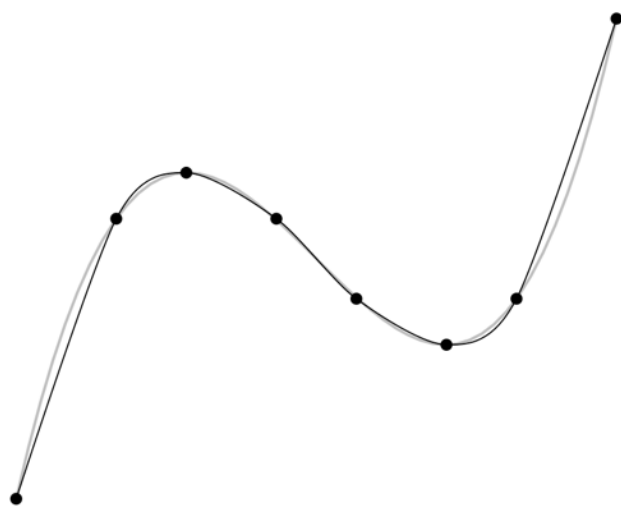
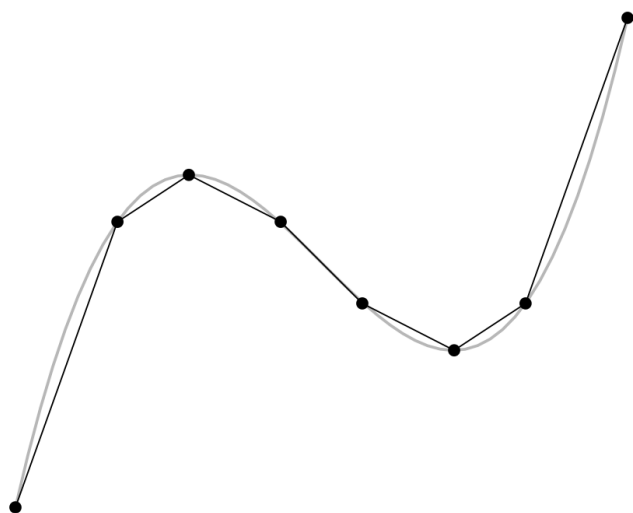


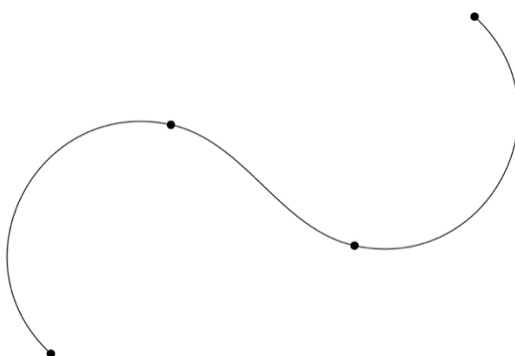
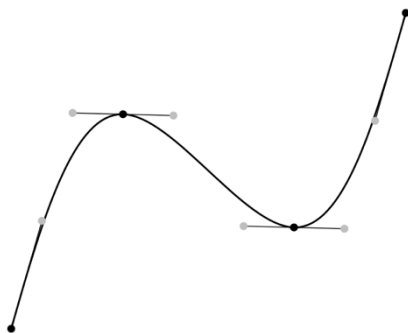
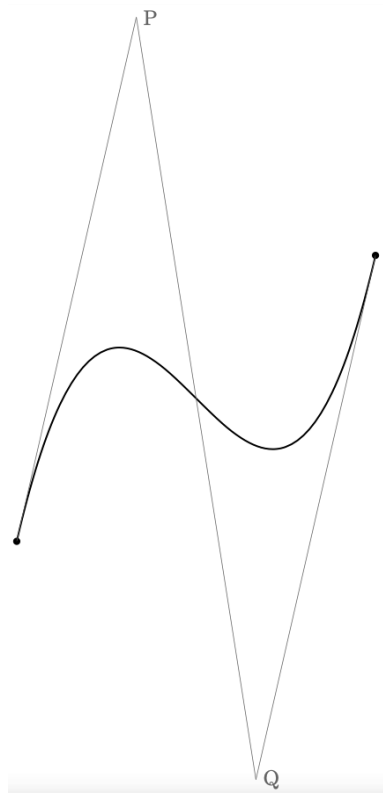


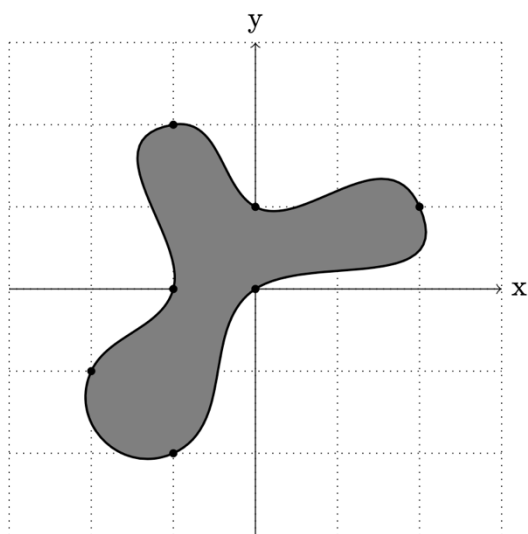
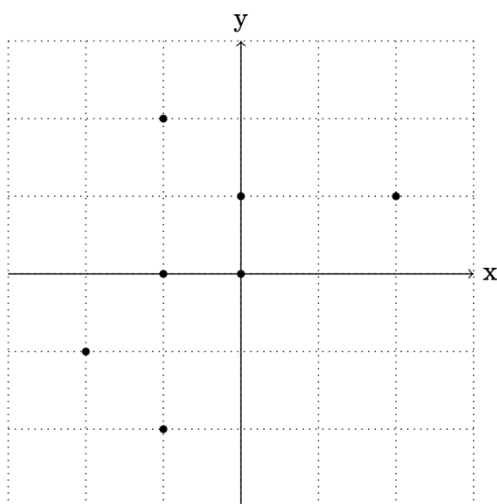
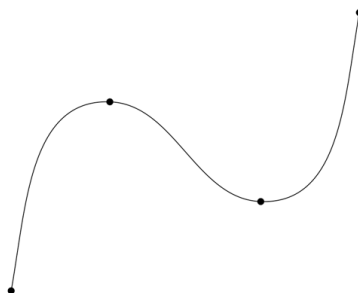
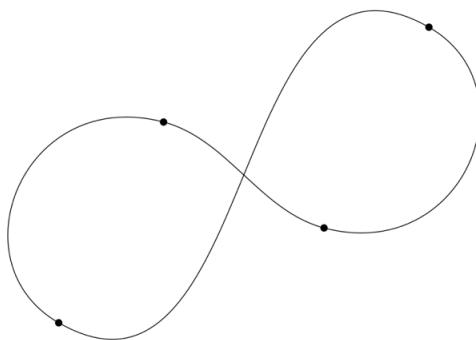


## Chapter 12: Drawing Smooth Curves

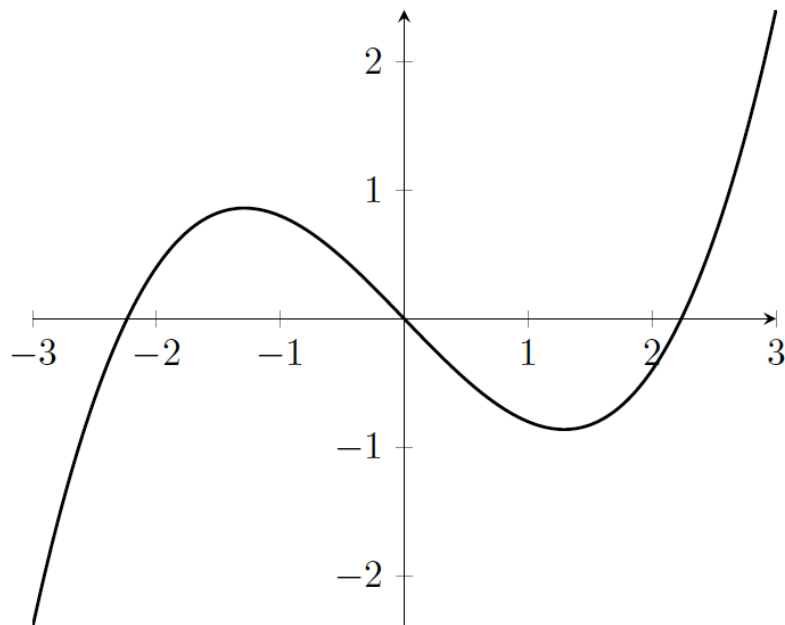
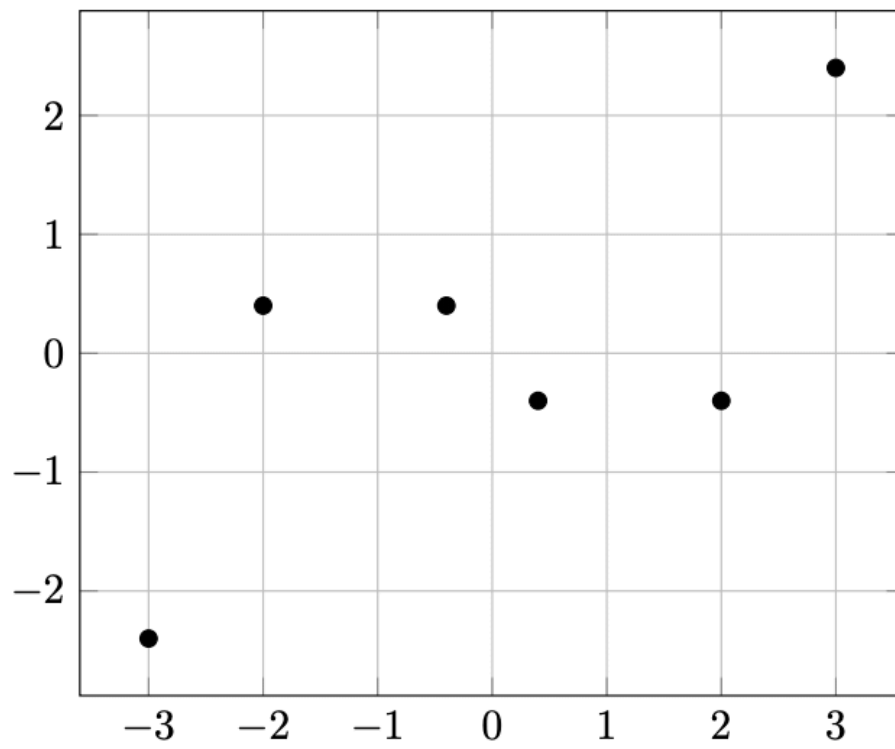


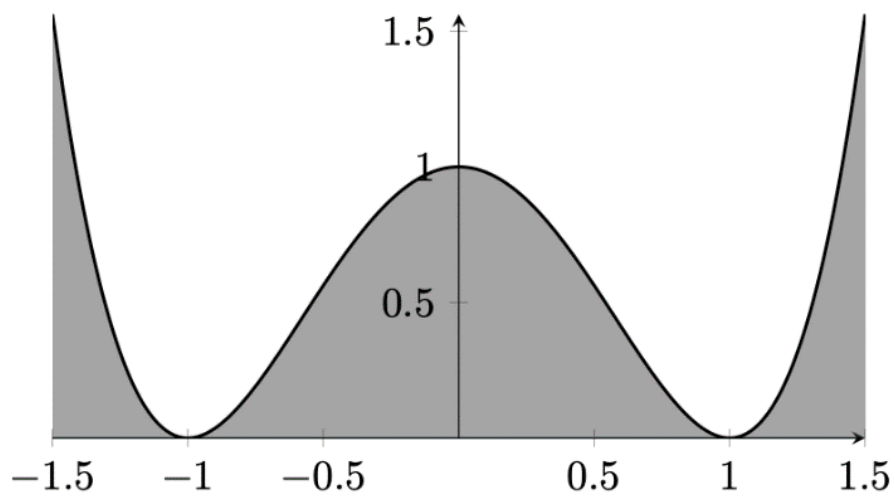
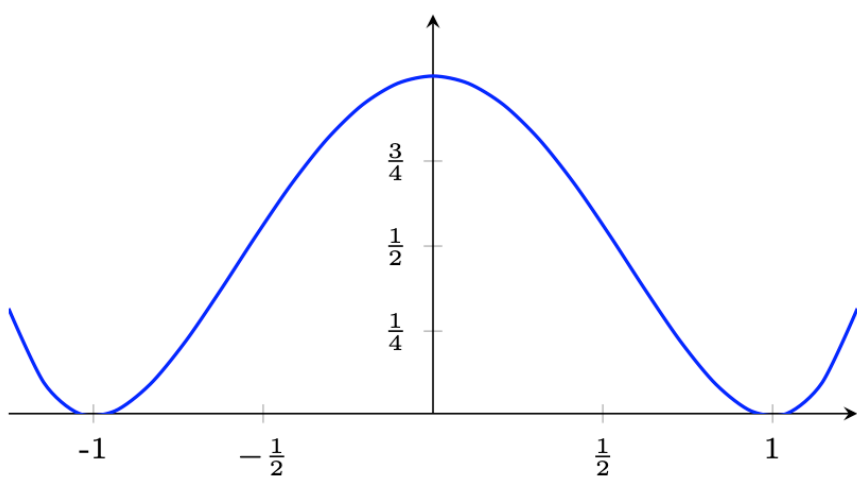
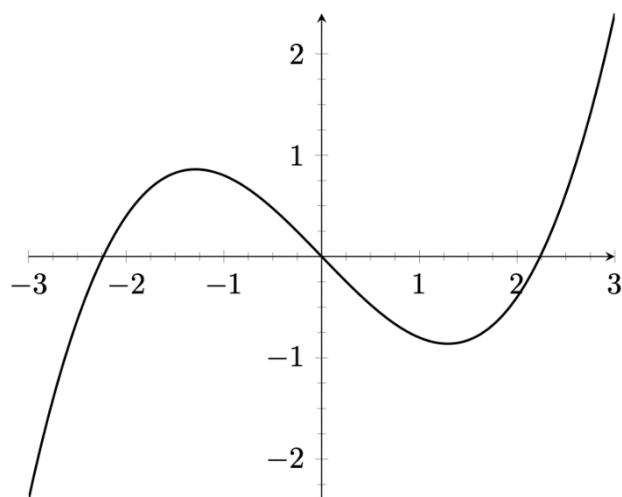


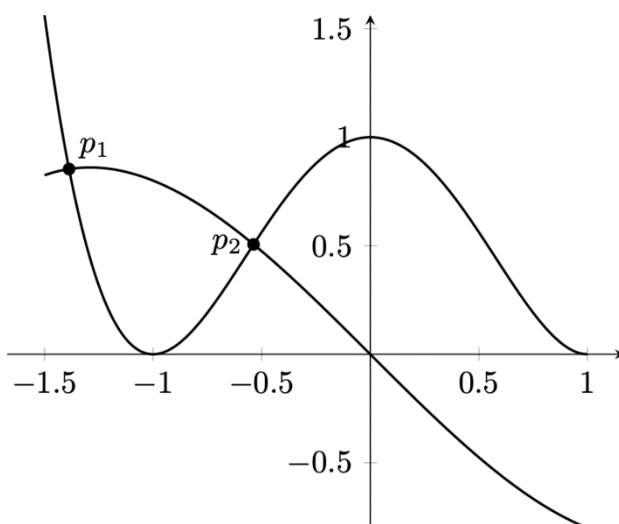
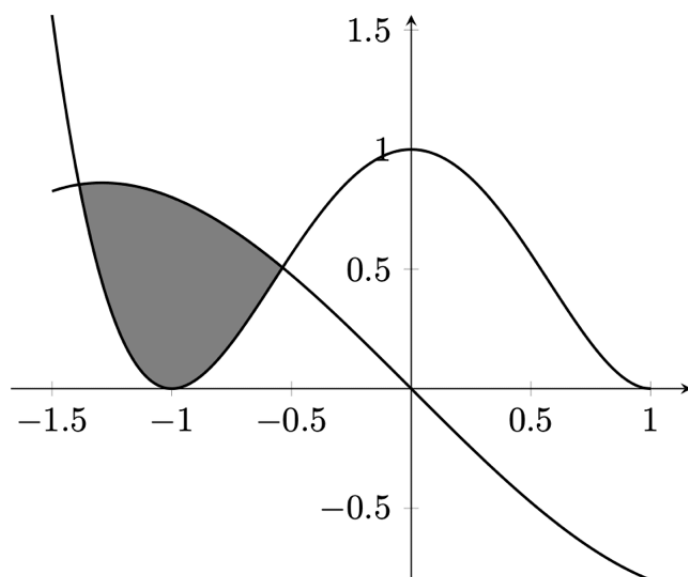
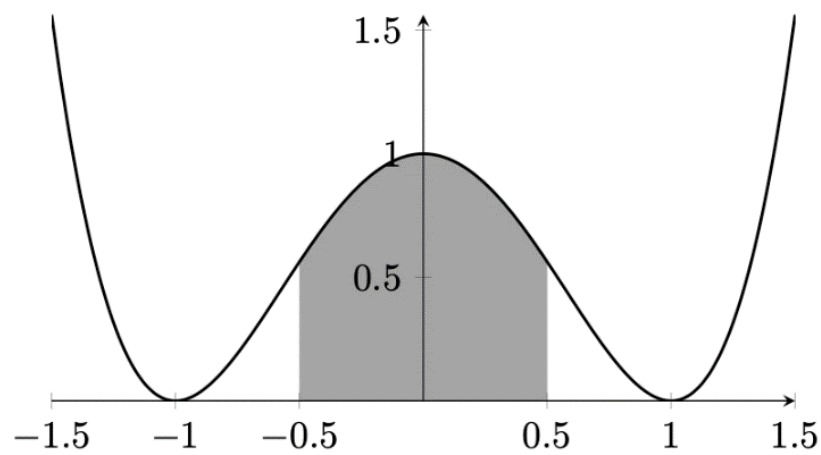


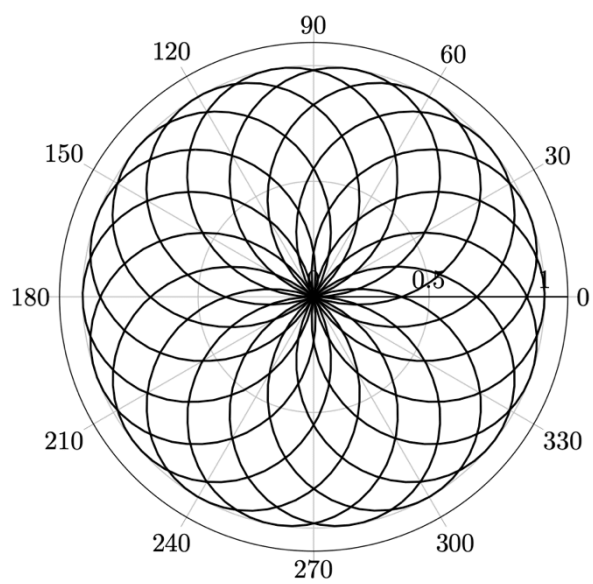
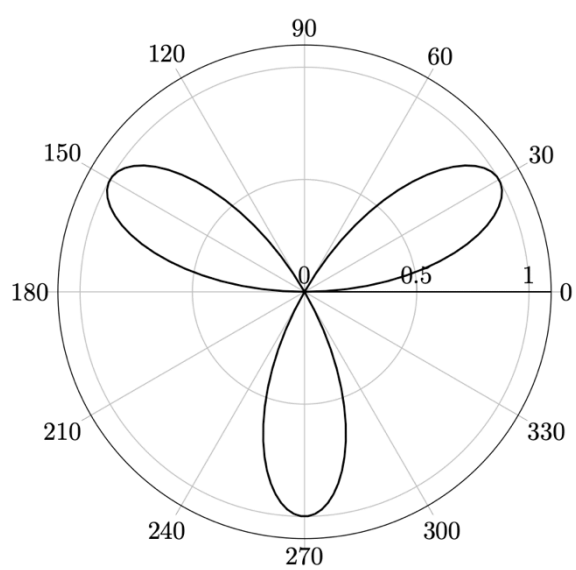
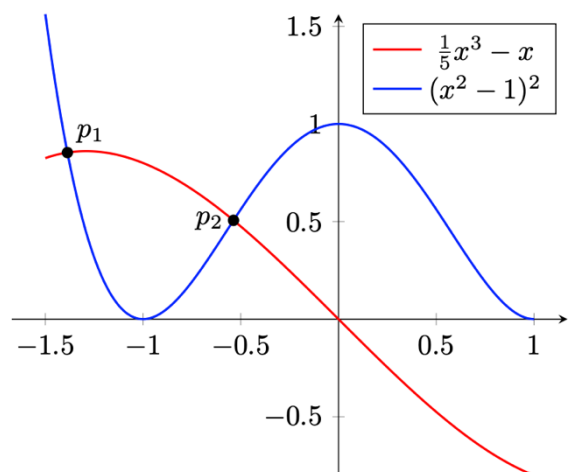


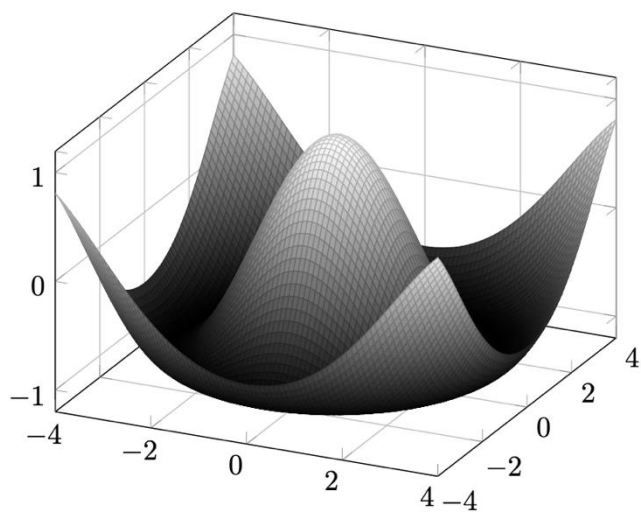
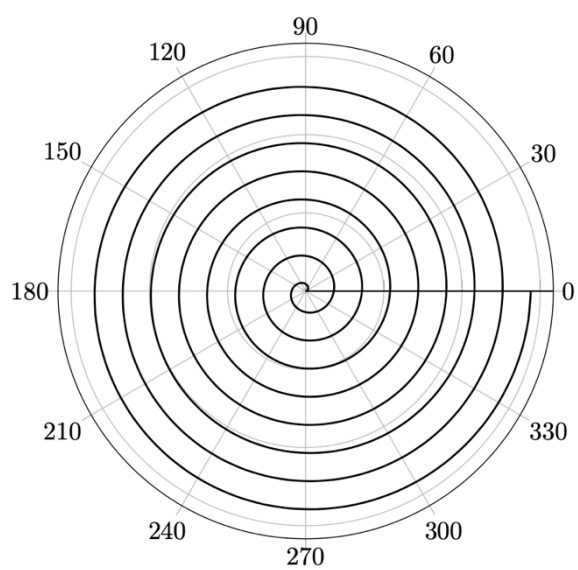
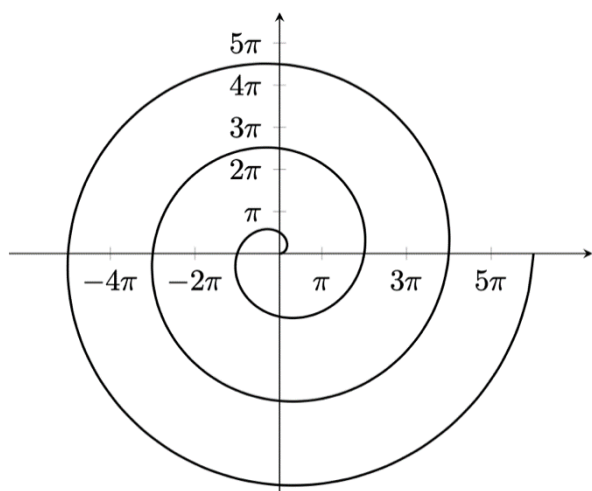
## Chapter 13: Plotting in 2D and 3D

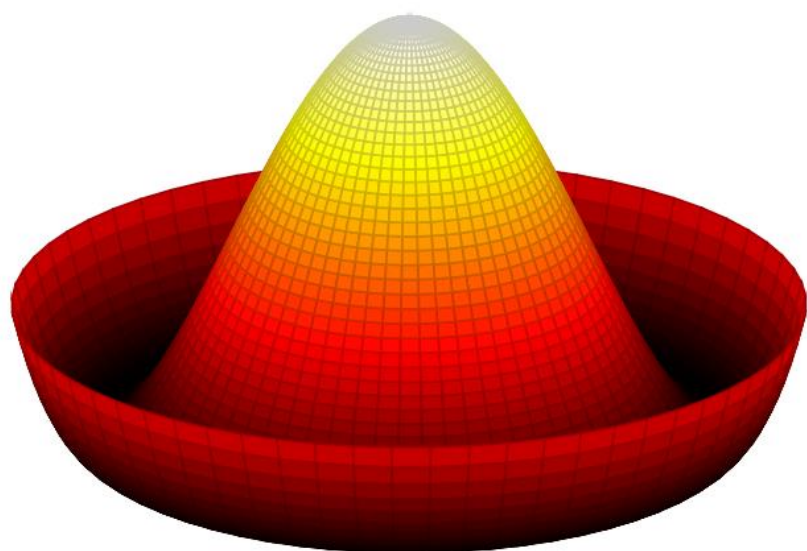




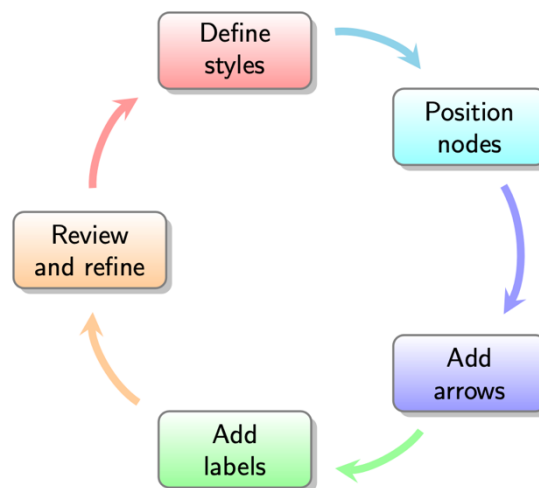
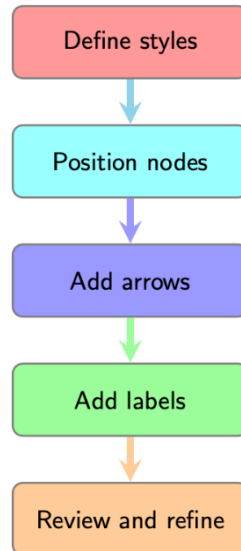


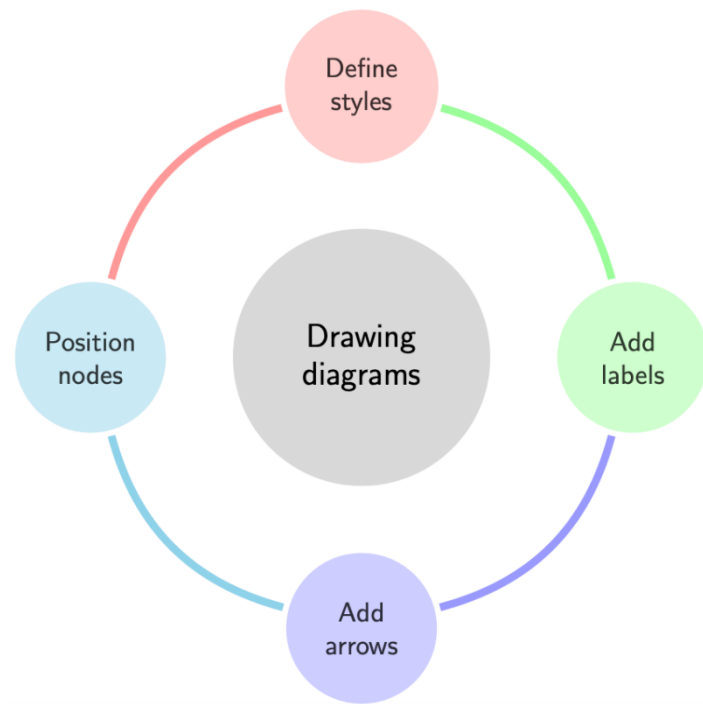
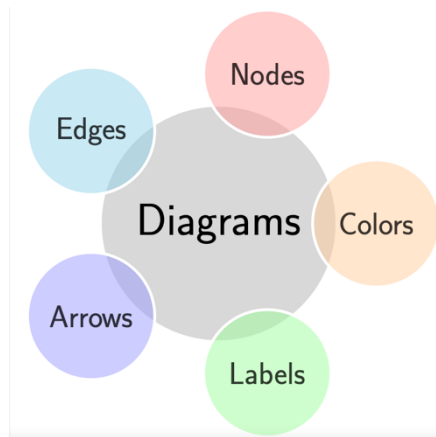


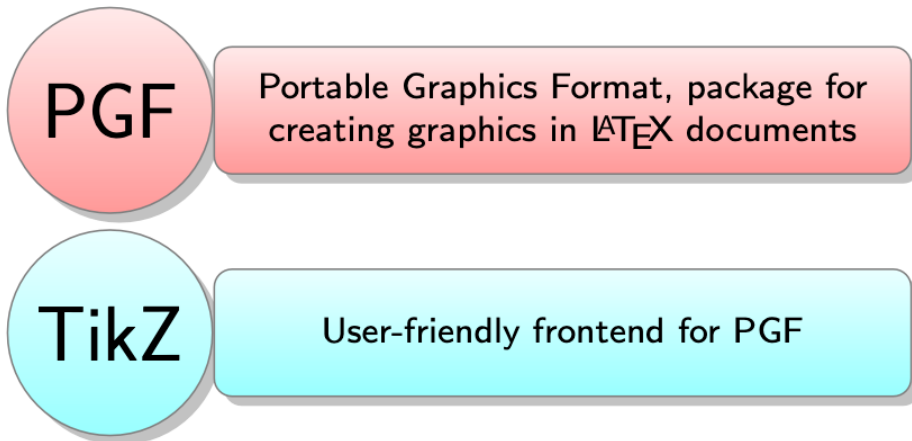
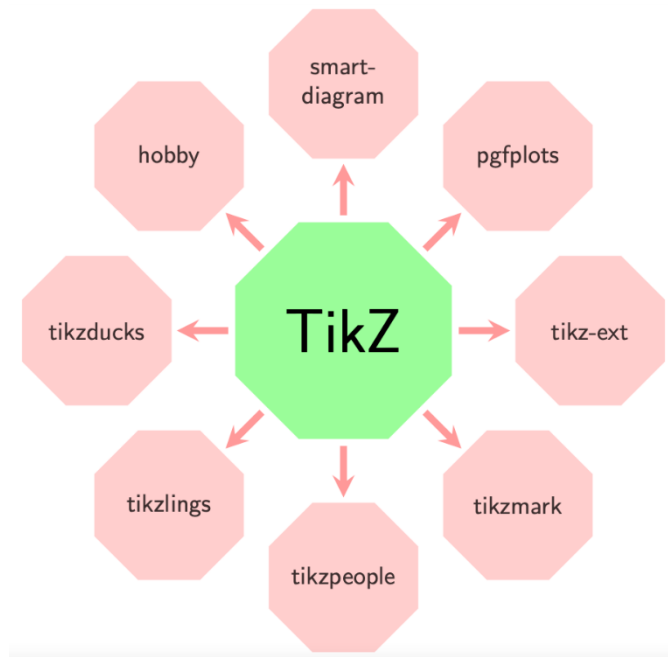


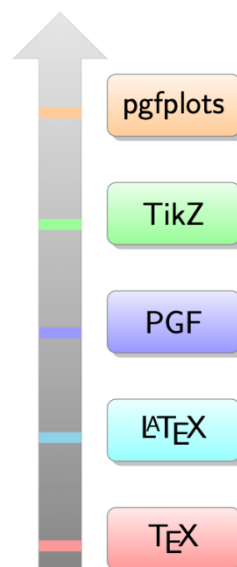
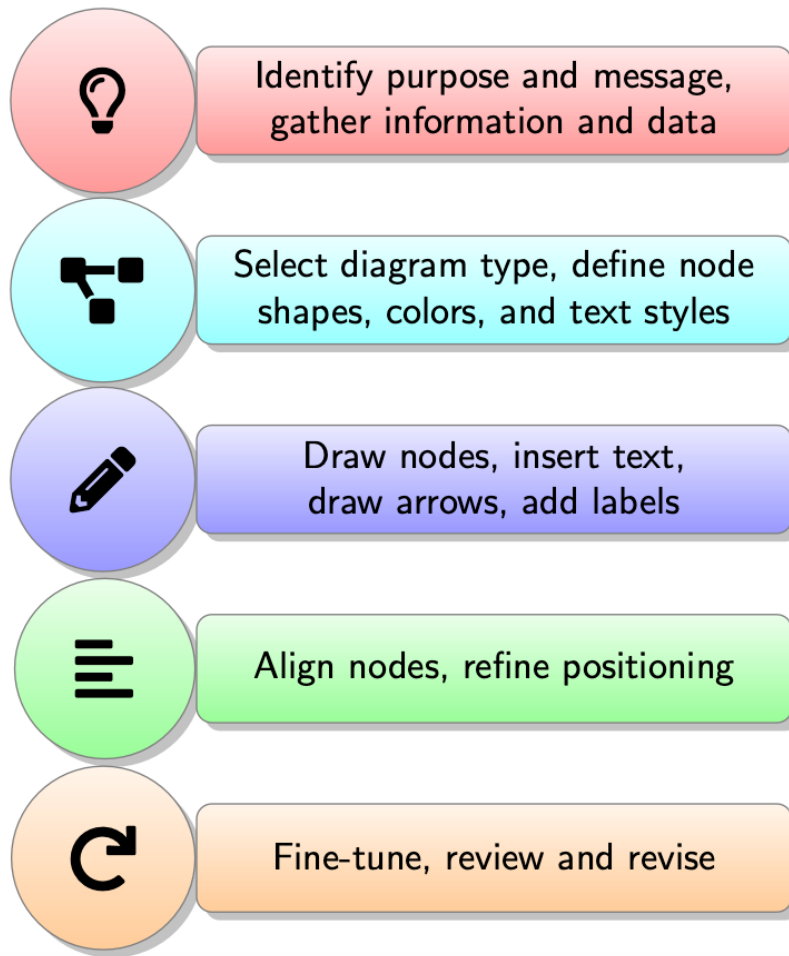


## Chapter 14: Drawing Diagrams



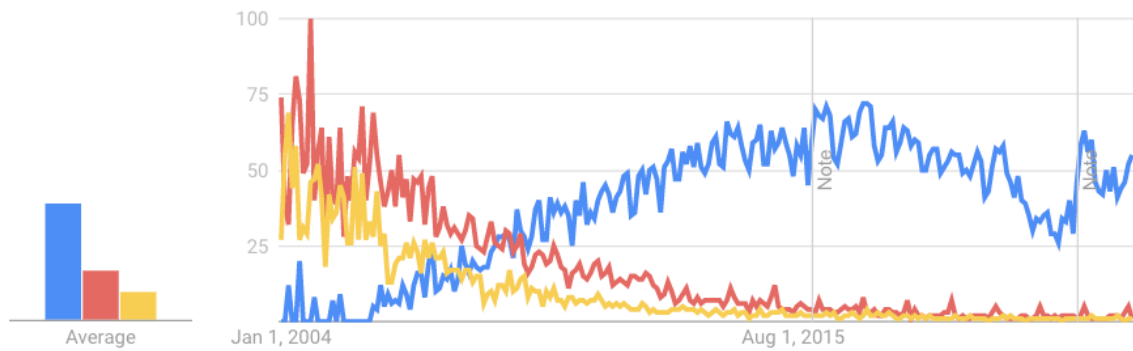




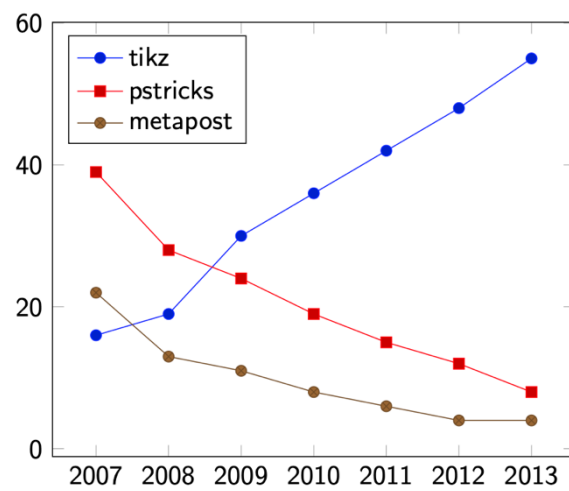


tikz pstricks metapost

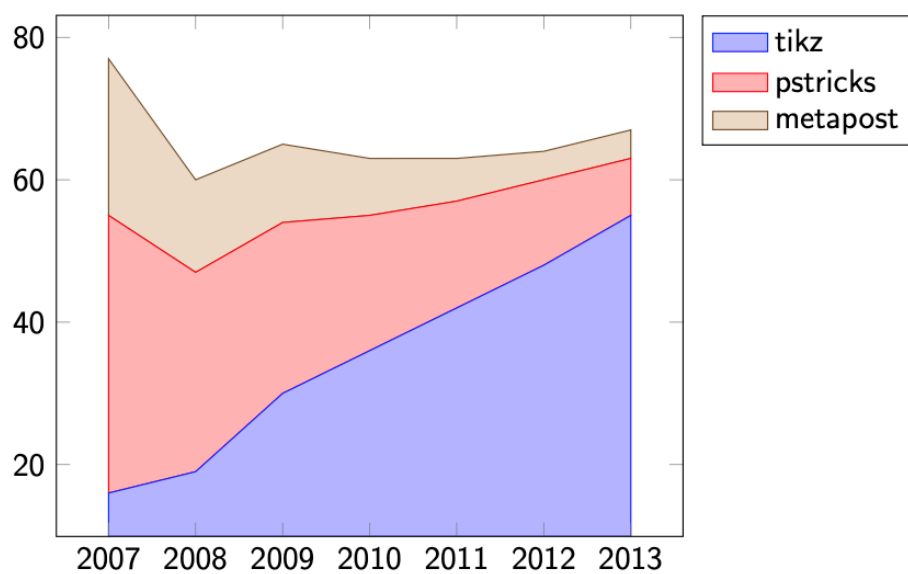
Worldwide, 2004 - present



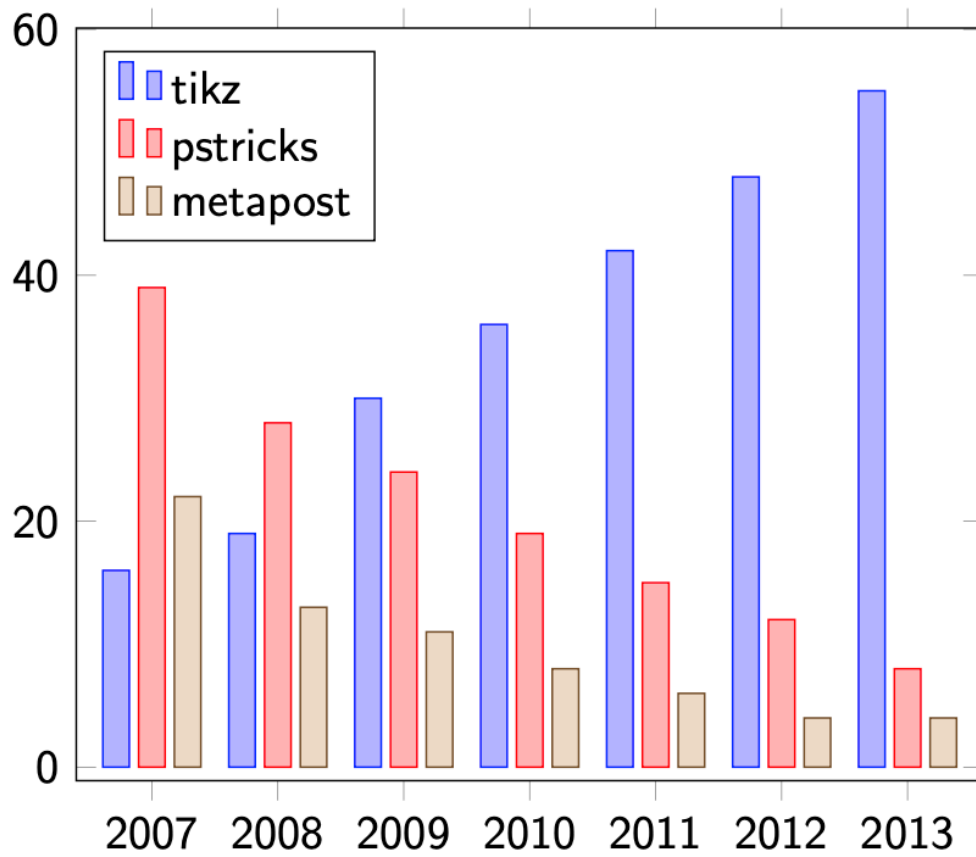
Keyword popularity in Google trends



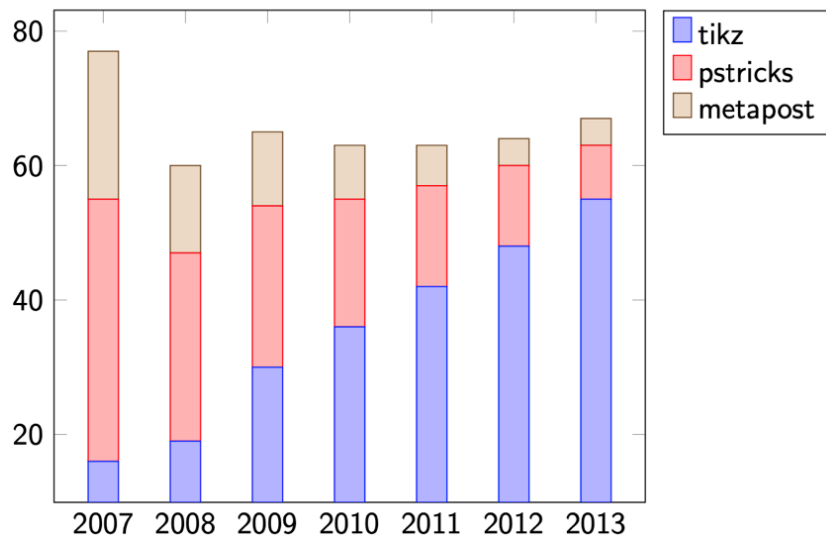
Keyword popularity in Google trends



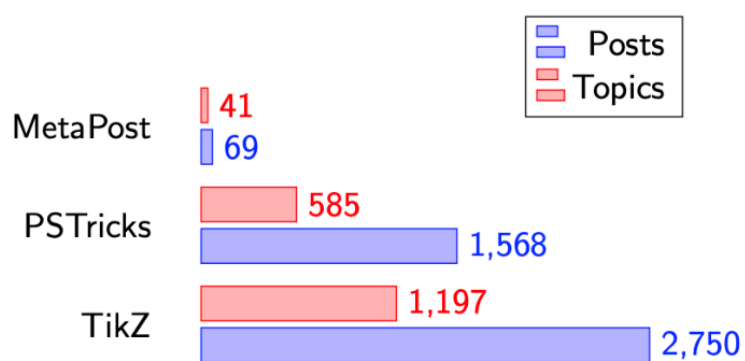
Keyword popularity in Google trends



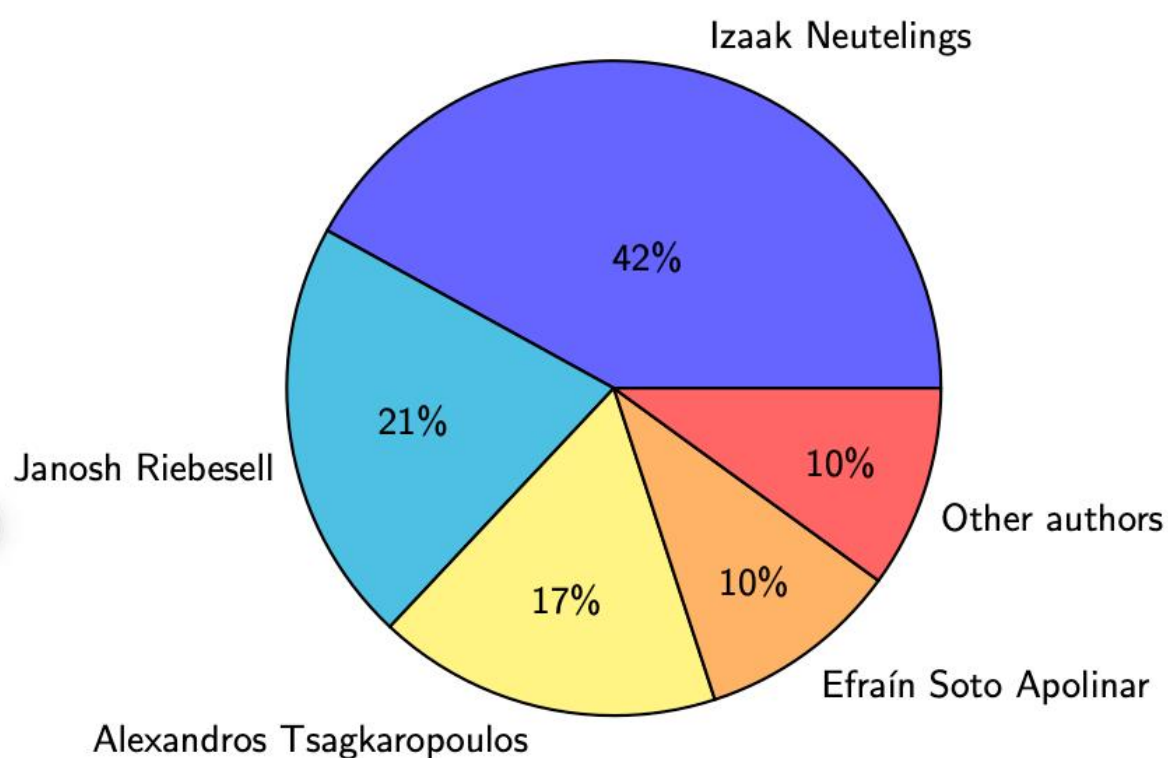
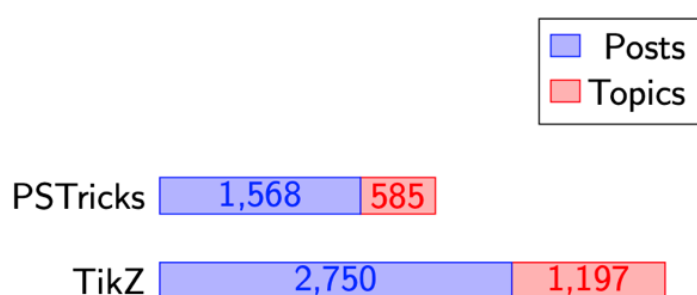
Keyword popularity in Google trends

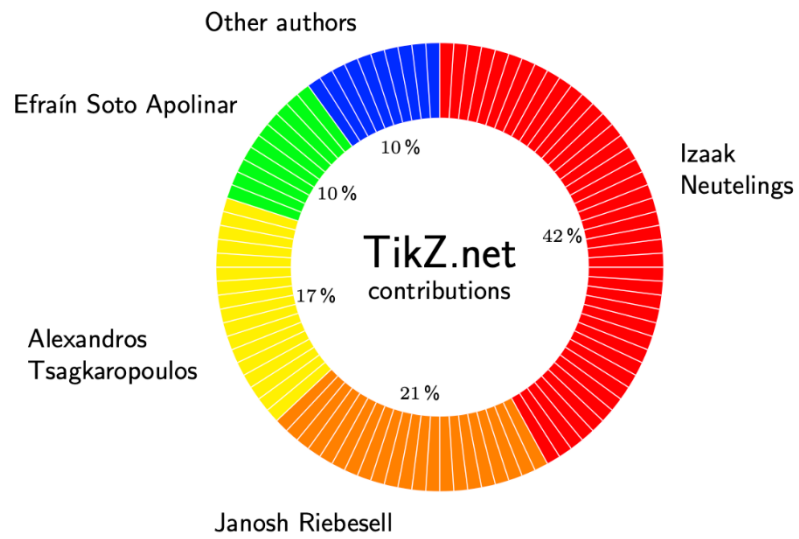


Keyword popularity on LaTeX.org

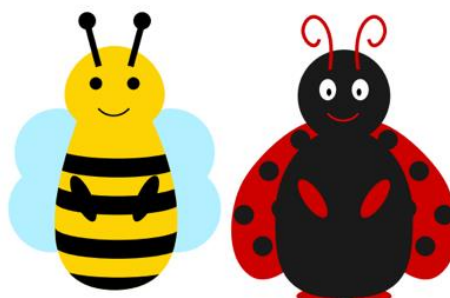
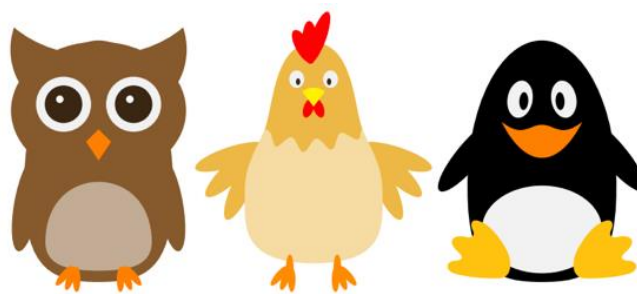


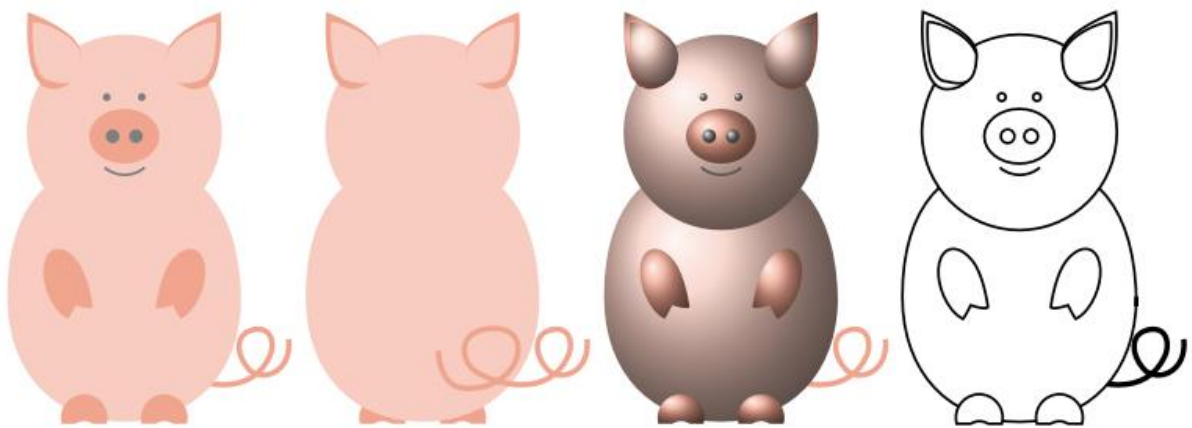
Keyword popularity on LaTeX.org

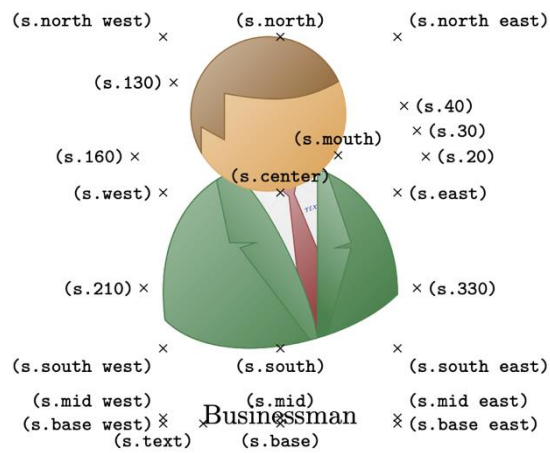










## Chapter 15: Having Fun with TikZ







 alice	 bob	 bride	 builder
 businessman	 charlie	 chef	 conductor
 cowboy	 criminal	 dave	 devil
 duck	 graduate	 groom	 guard
 jester	 judge	 maninblack	 mexican

 nun	 nurse	 physician	 pilot
 police	 priest	 sailor	 santa
 surgeon			

