Graphing with LaTeX

Ryan

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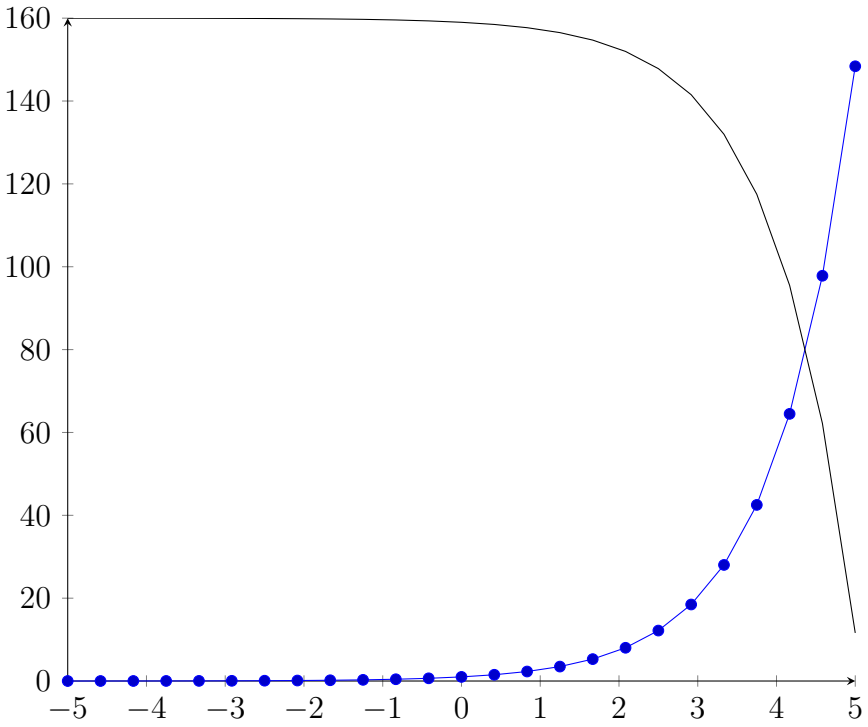
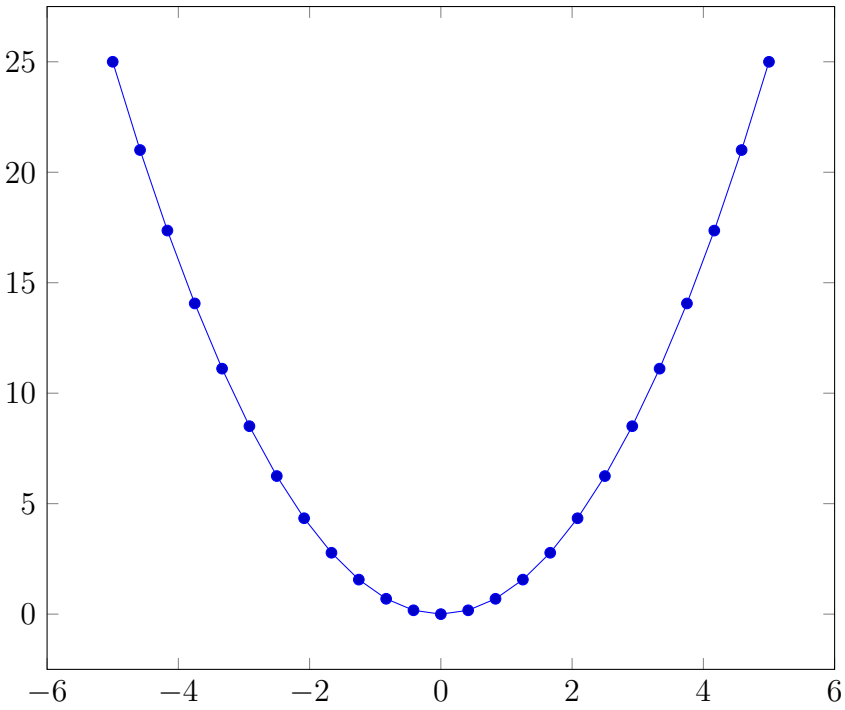
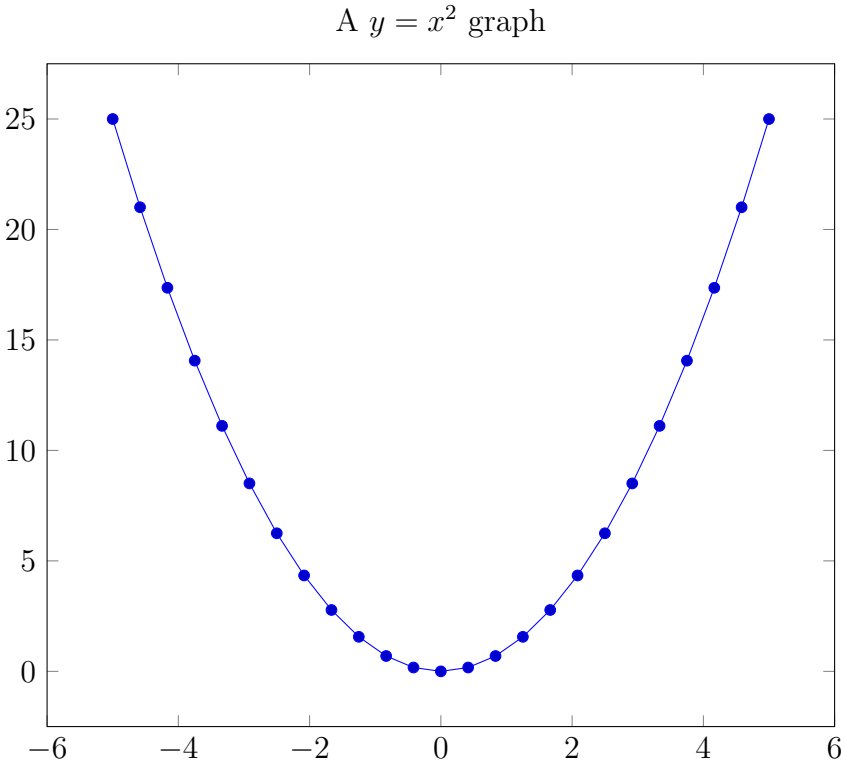
1 Creating a 2D-Plot



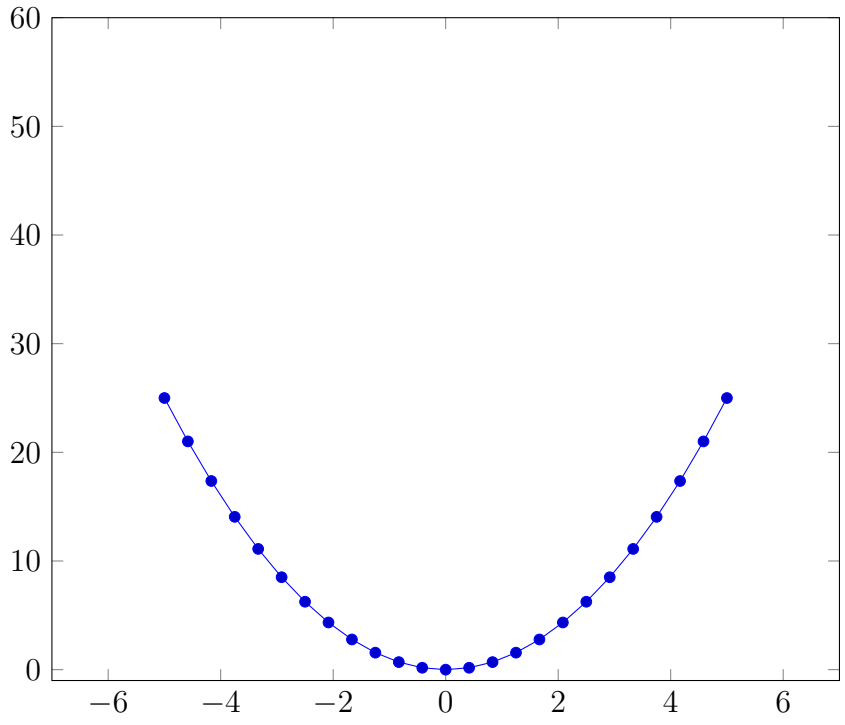
1.1 Customising the Axes



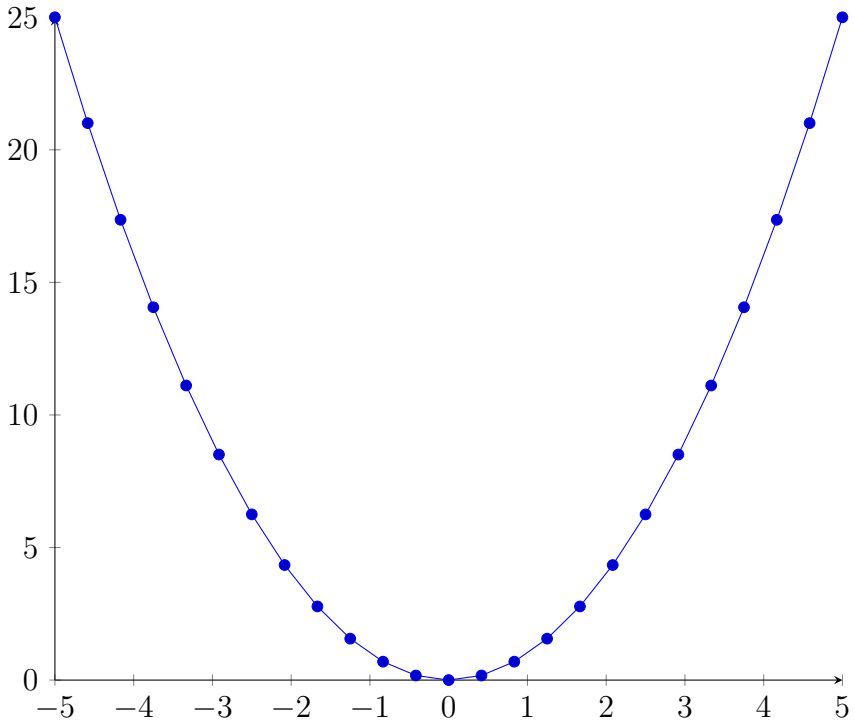
1.2 Adding a Title



1.3 Ranges of Axes



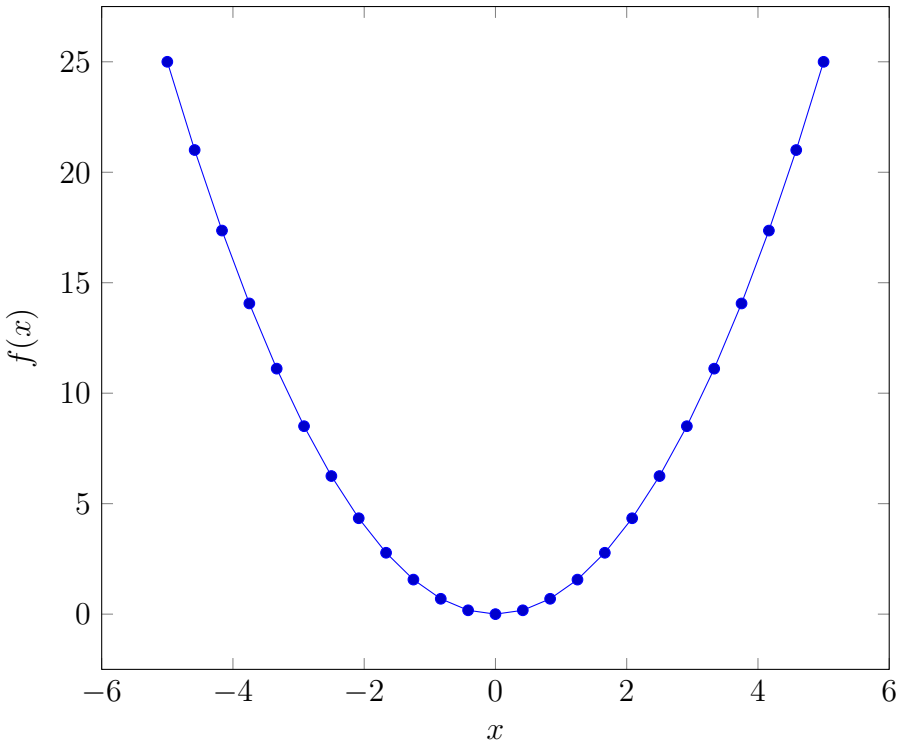
1.4 Axes Position



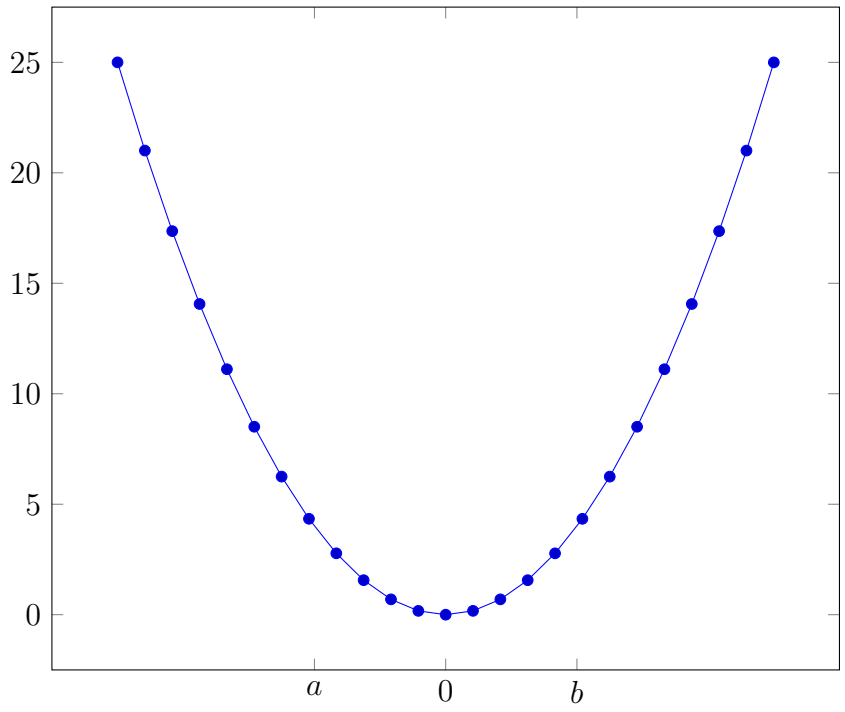
Different Axes Position:

- axis lines = left
- axis lines = right
- axis lines = center
- axis lines = box

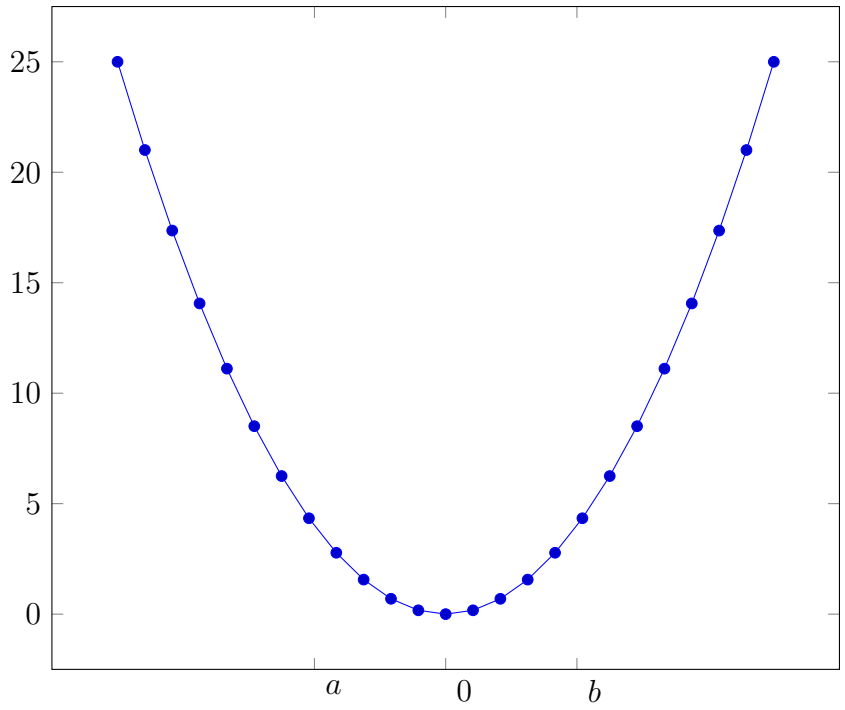
1.5 Adding Axes Labels



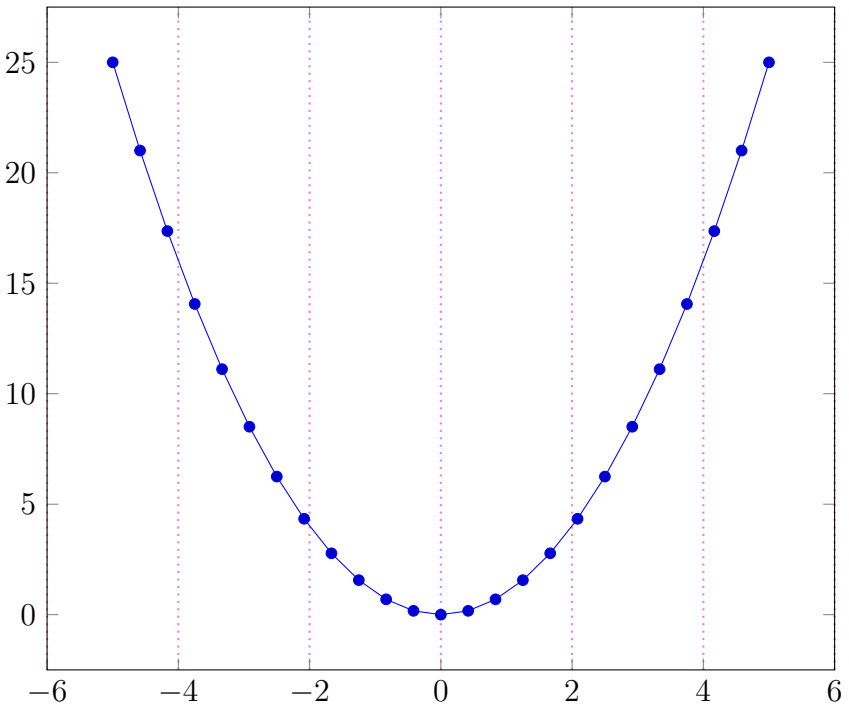
1.6 Ticks



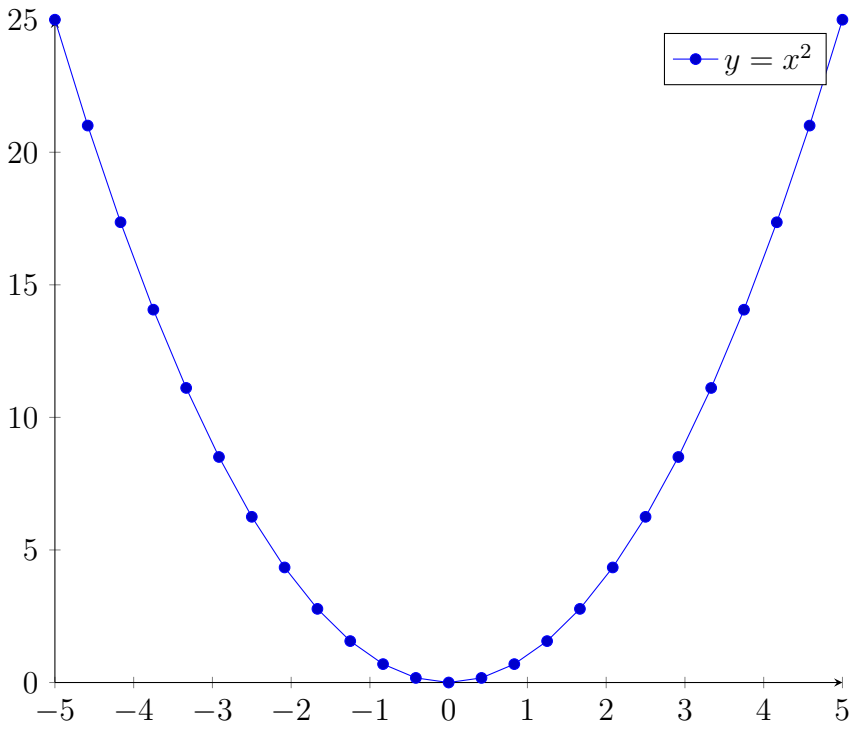
1.7 Ticks Positioning



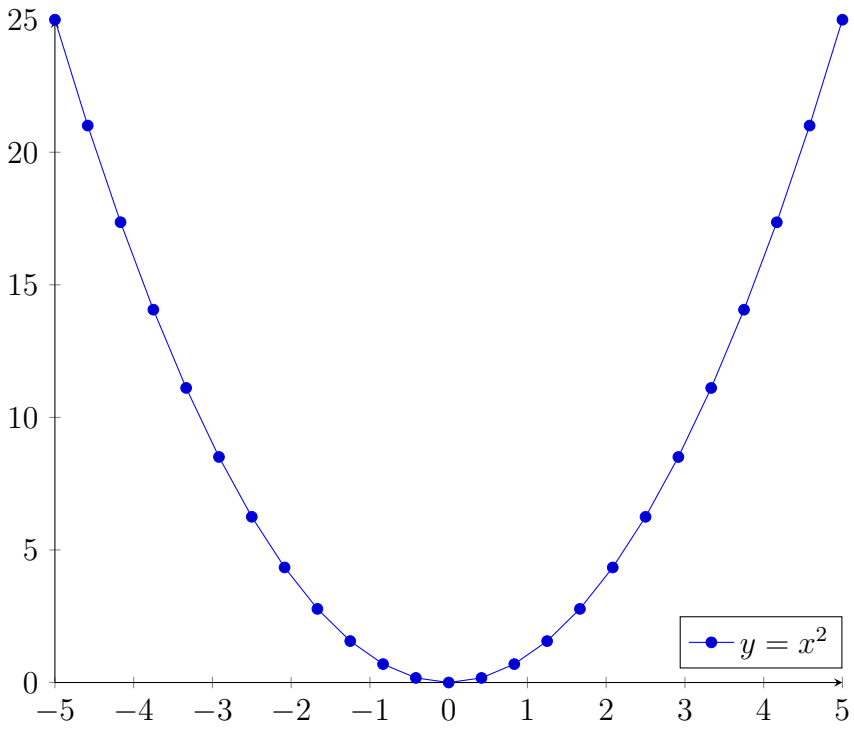
1.8 Adding Major Gridlines



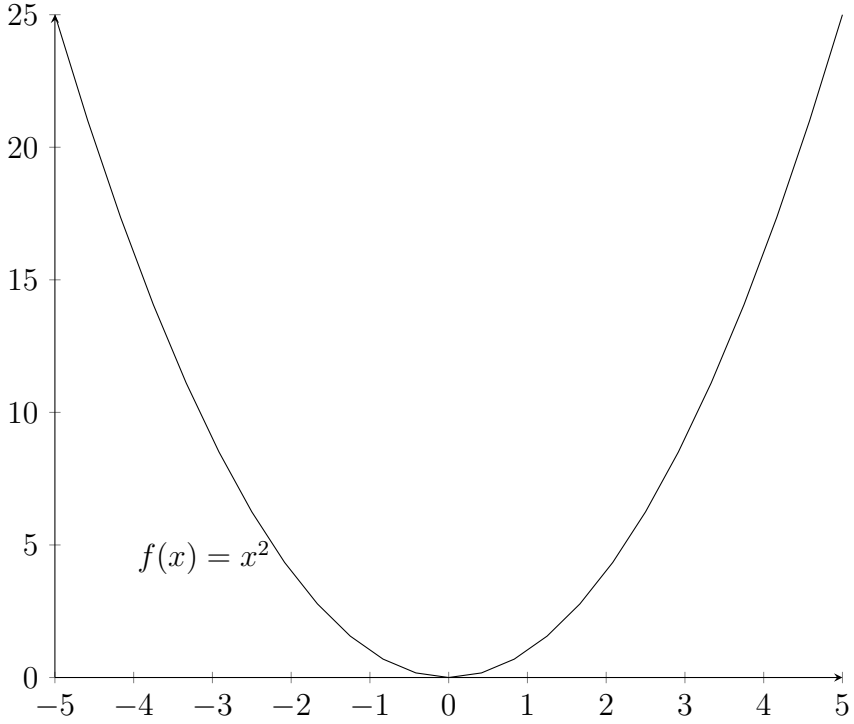
1.9 Adding a Legend



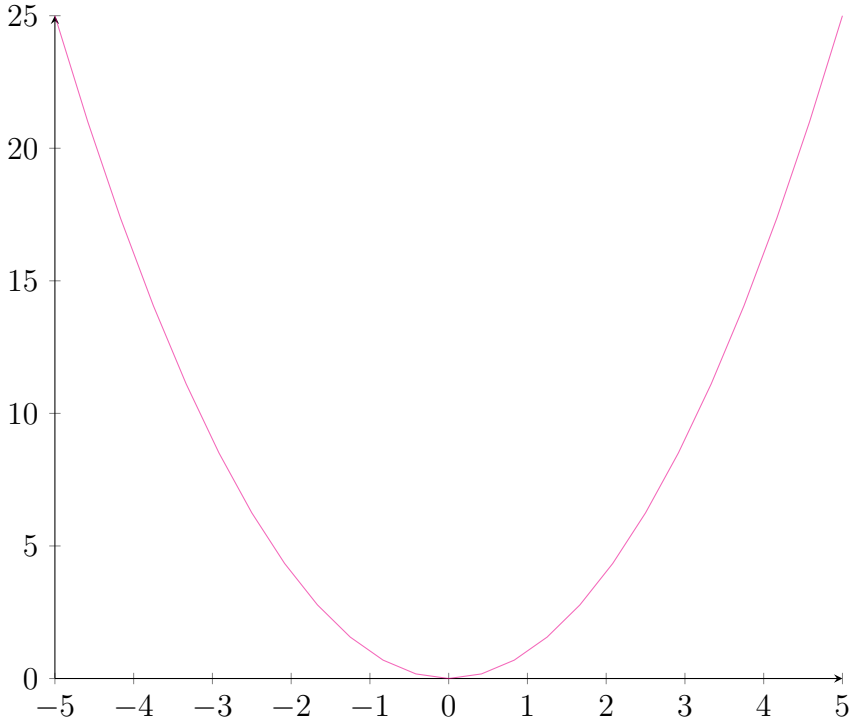
1.10 Customising the Legend



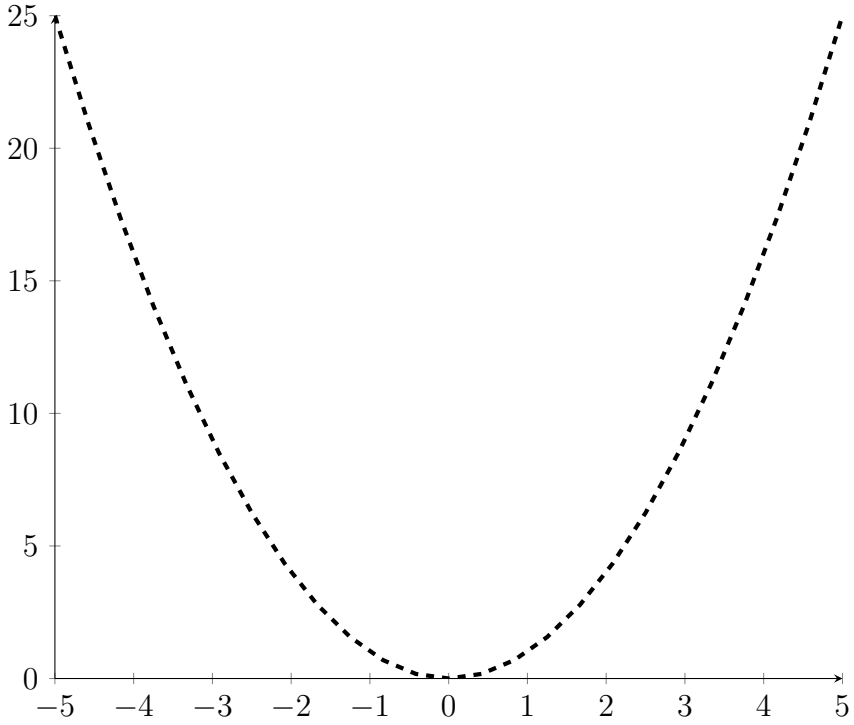
1.11 Adding a Label beside the Graph



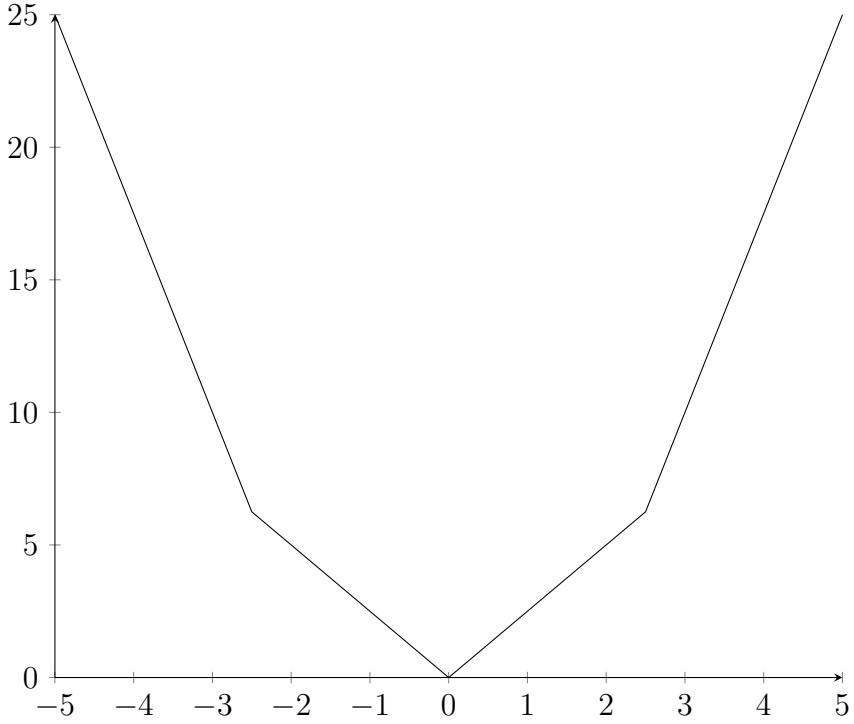
1.12 Color Options



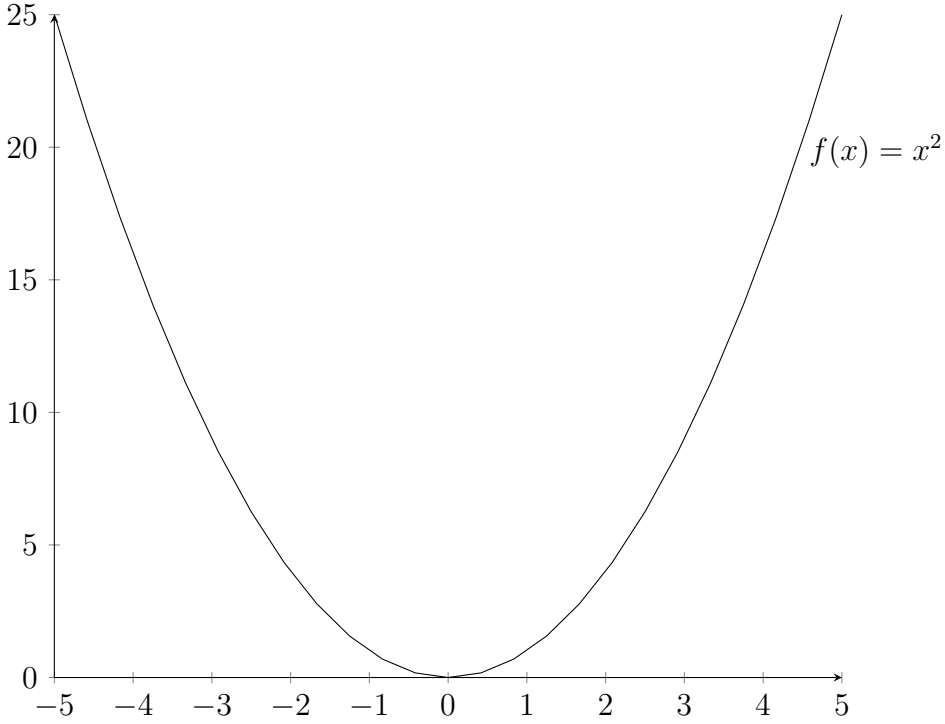
1.13 Line Style Options



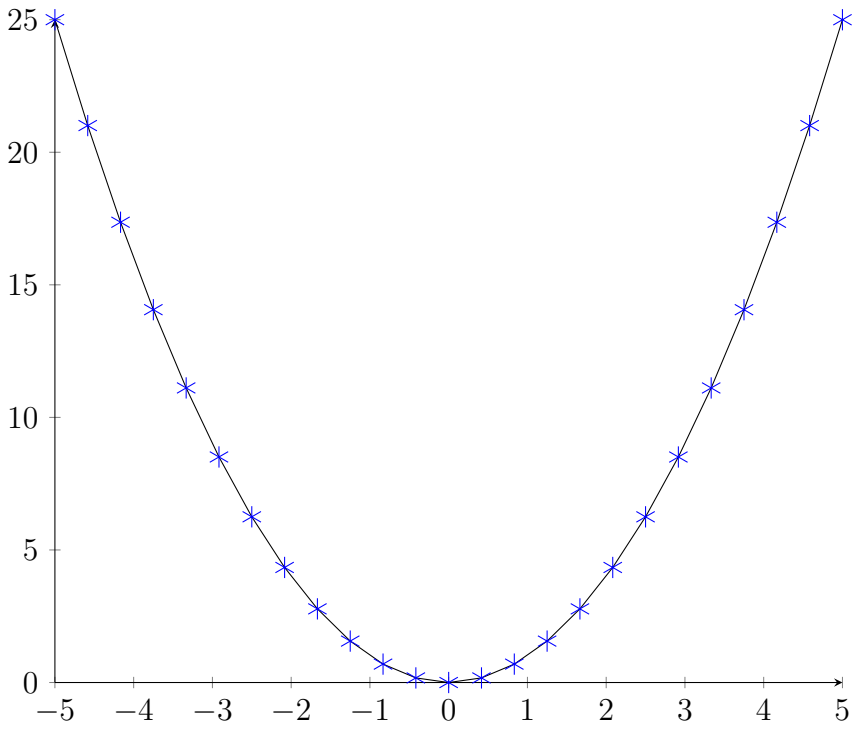
1.14 Number of Samples



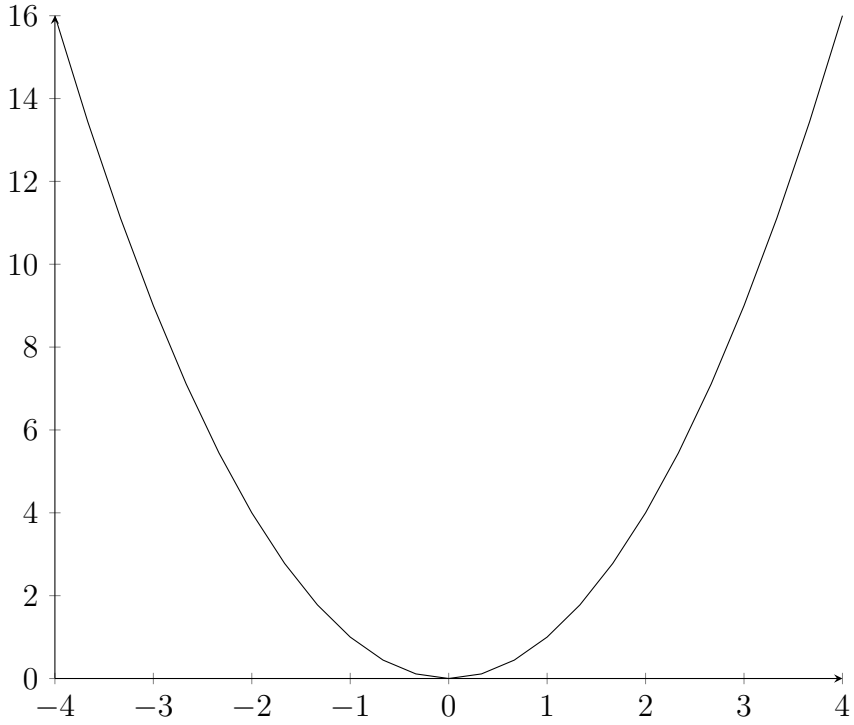
1.15 Adding a Label beside the Graph



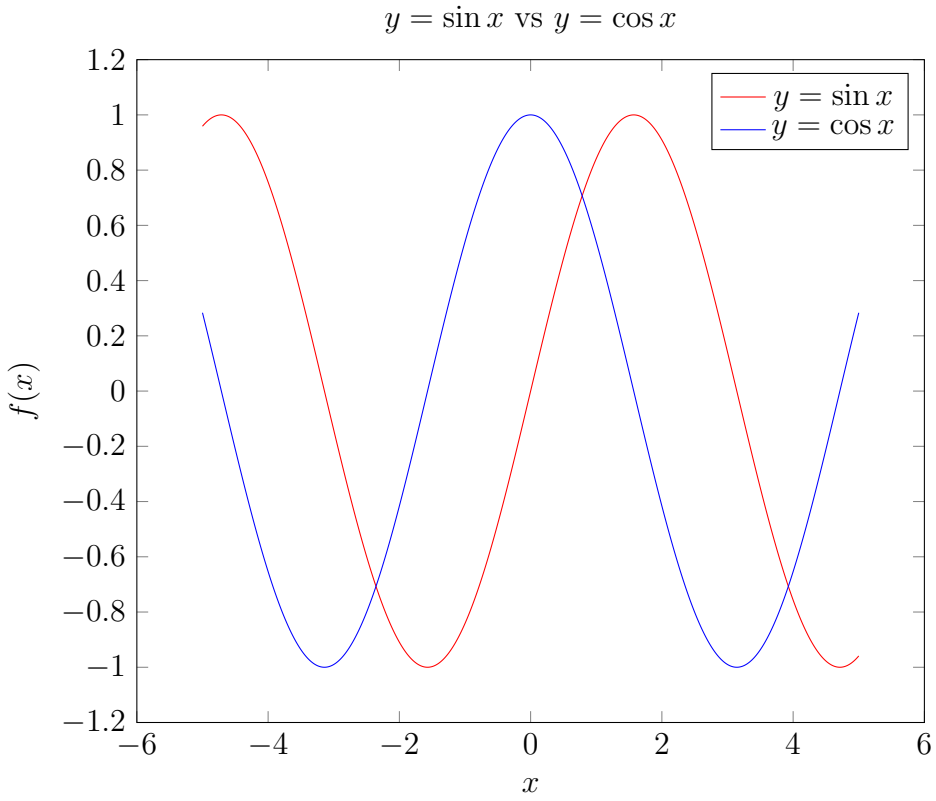
1.16 Including Marks



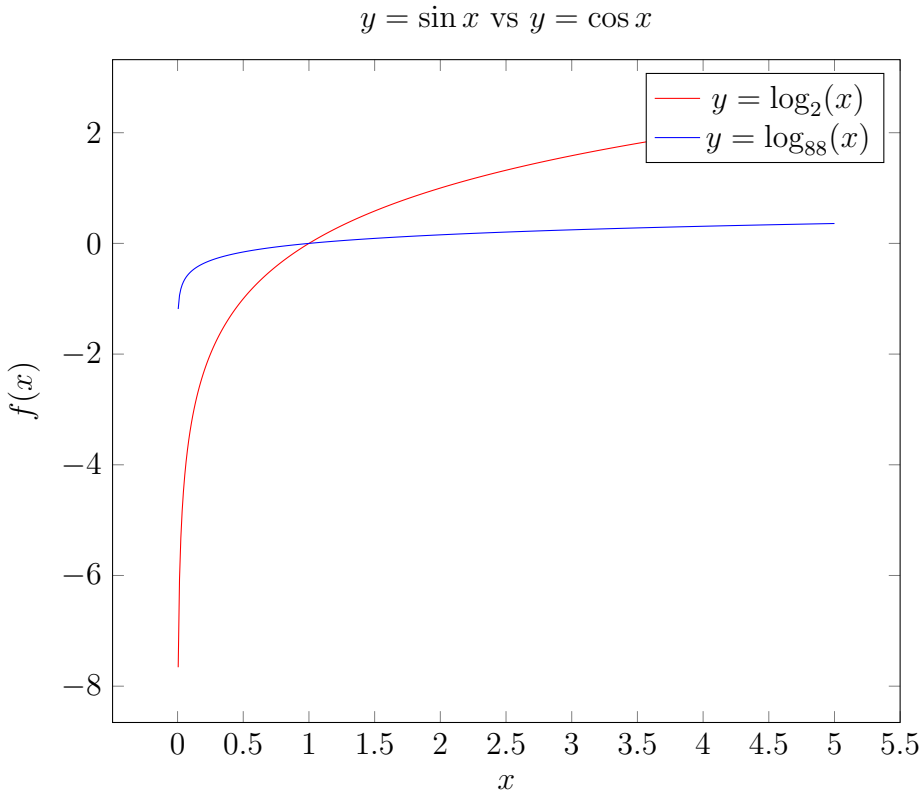
1.17 Domain of a Graph



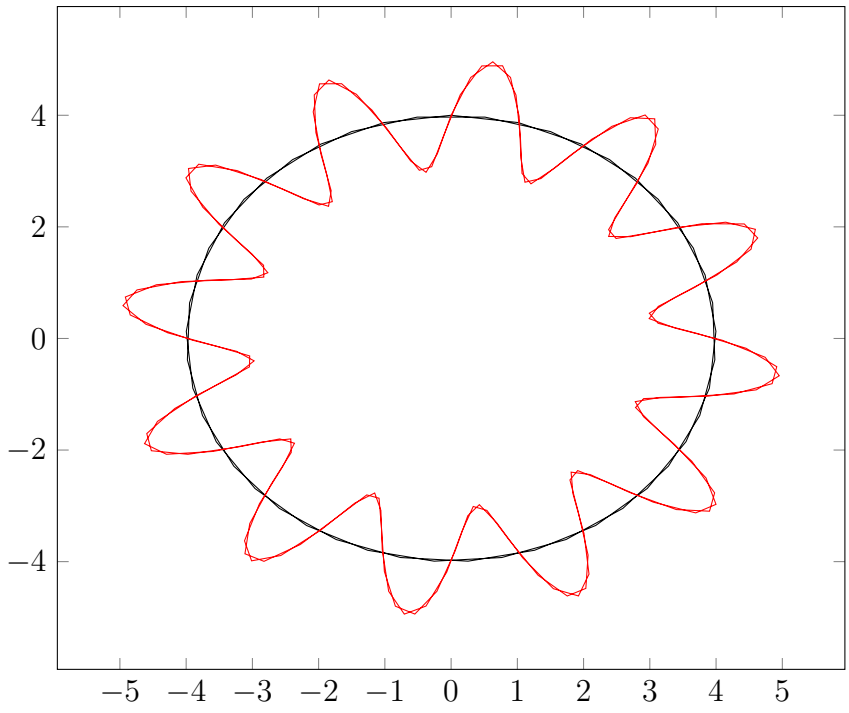
1.18 Trigonometric Functions



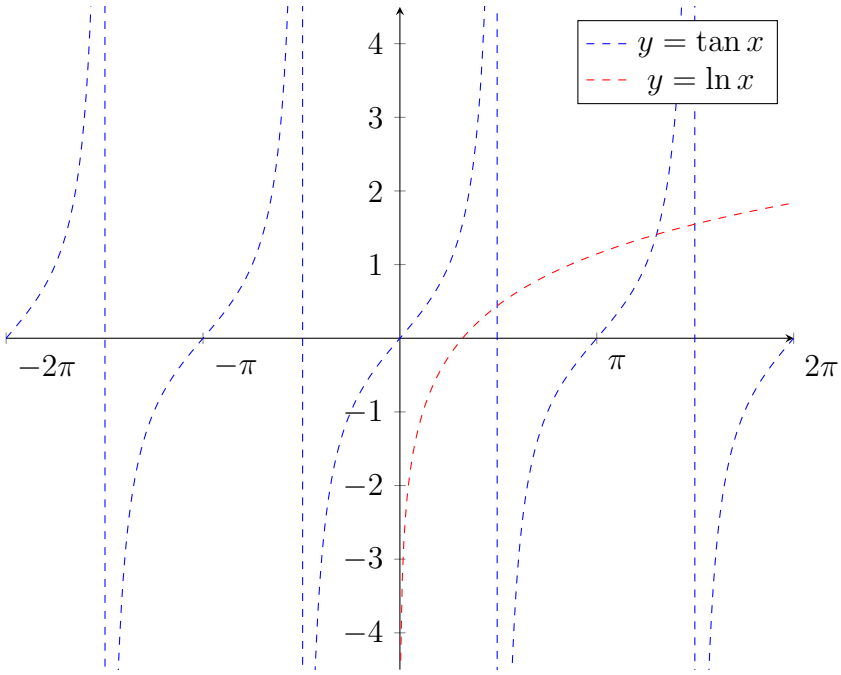
1.19 Logarithmic Functions

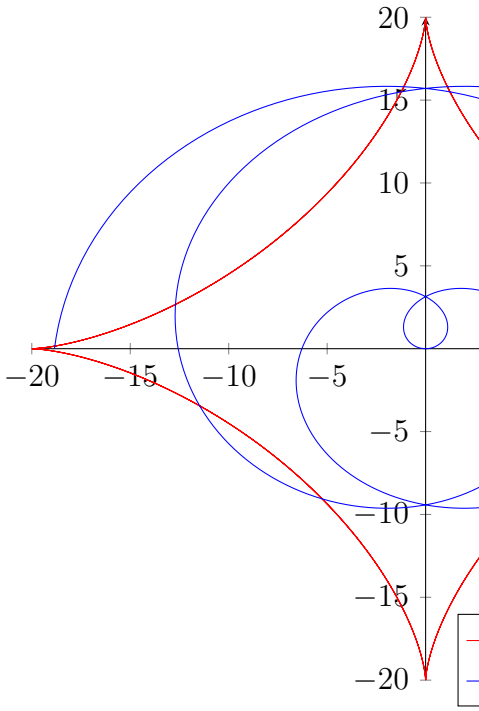


1.20 Parametric Equations



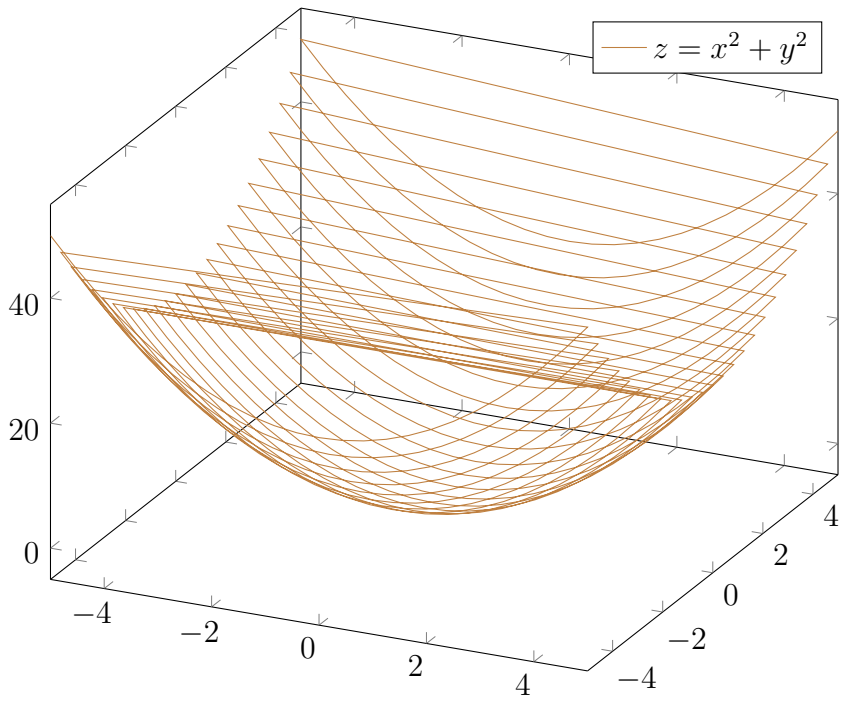
1.21 Practice



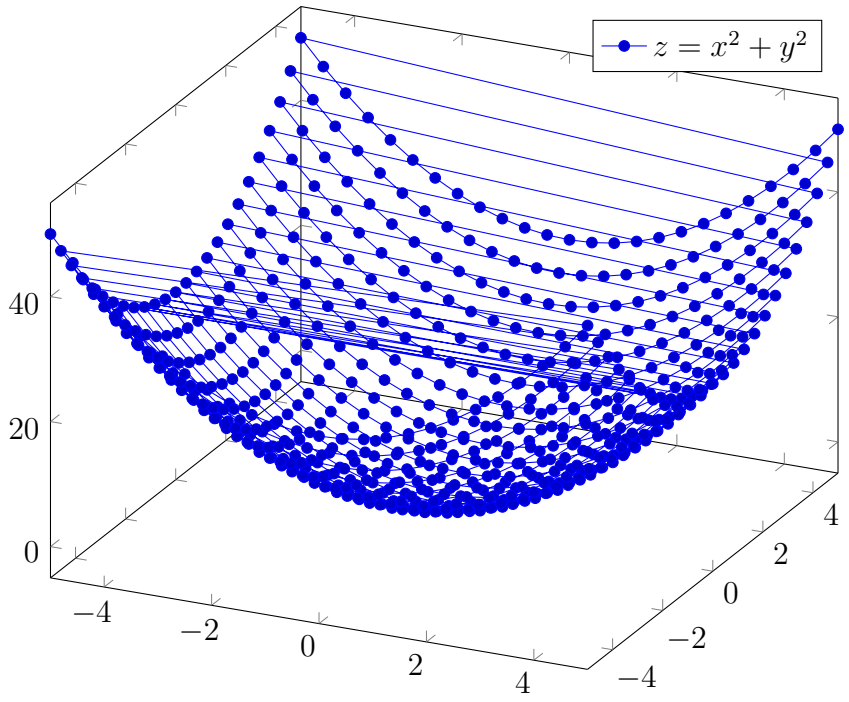


2 Creating a 3D-Plot

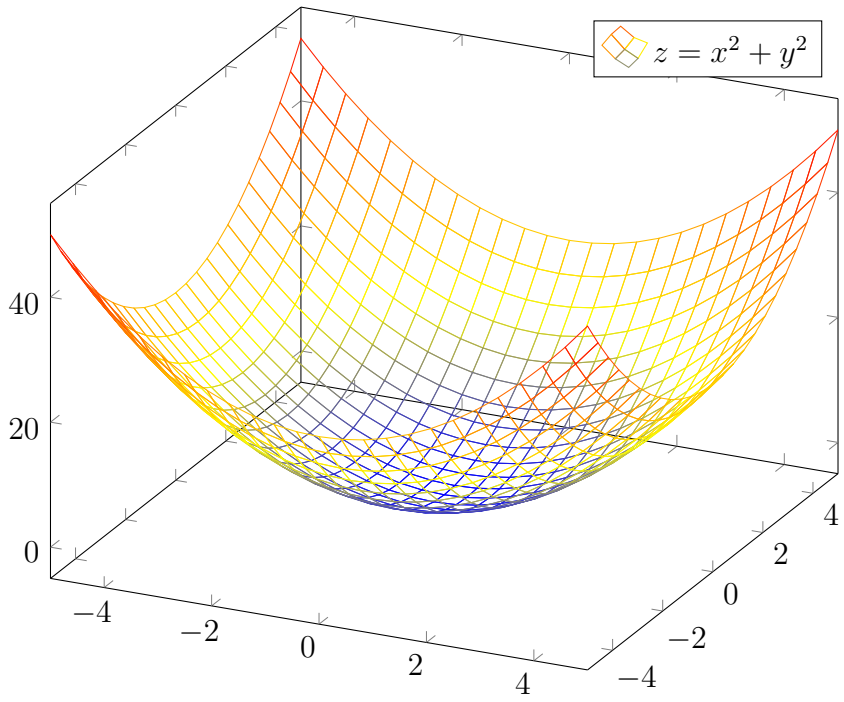
A 3D Graph



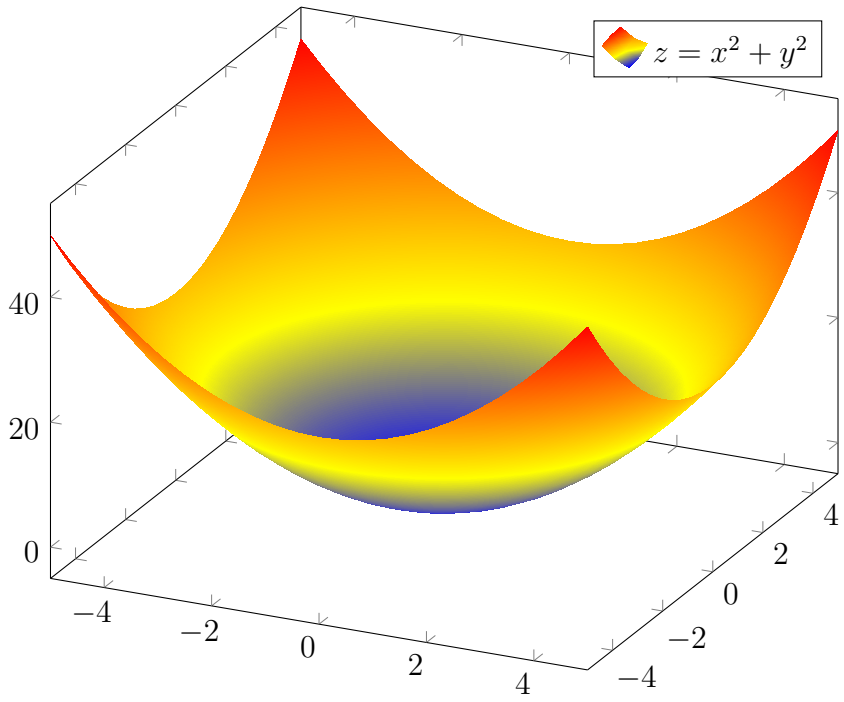
2.1 Types of Surface Plots



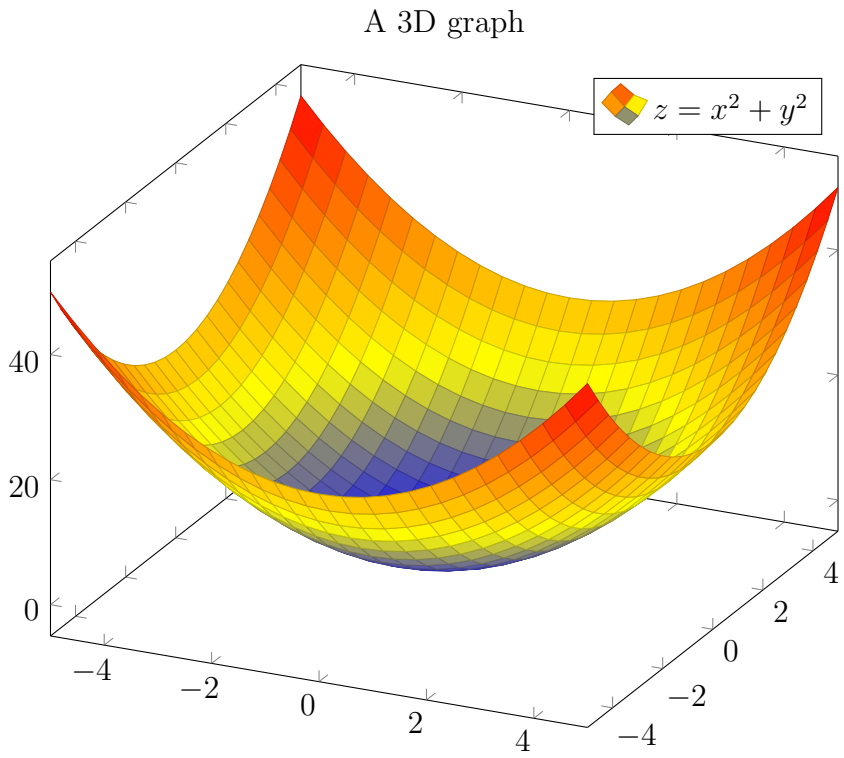
2.1.1 Mesh



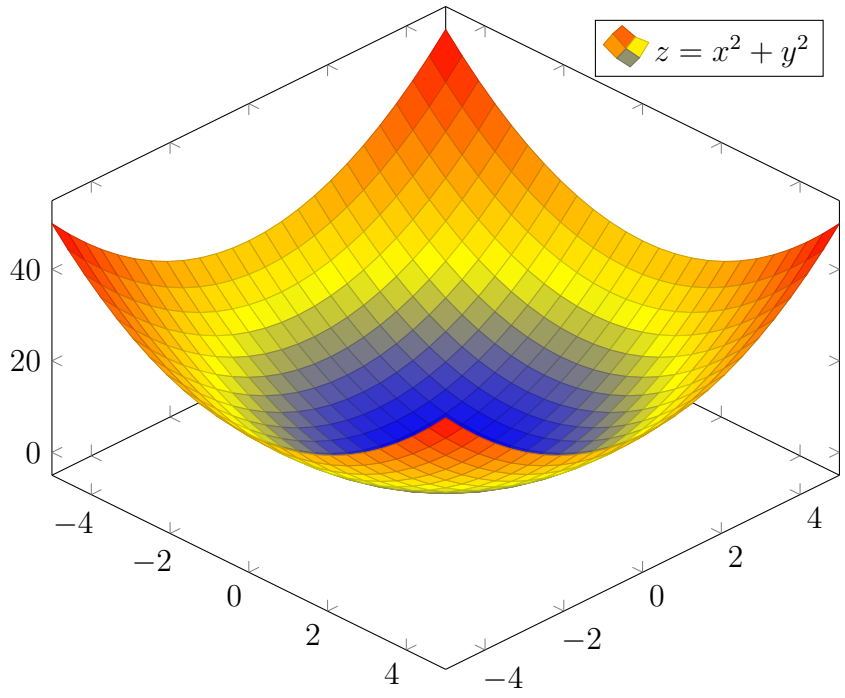
2.1.2 Surface



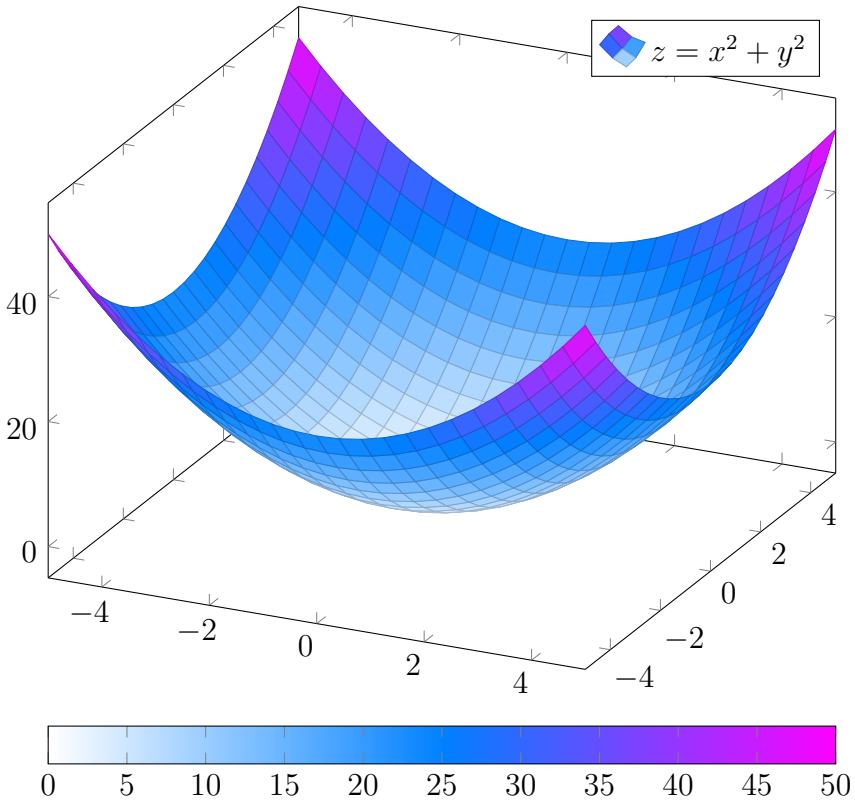
2.2 Inserting a Title



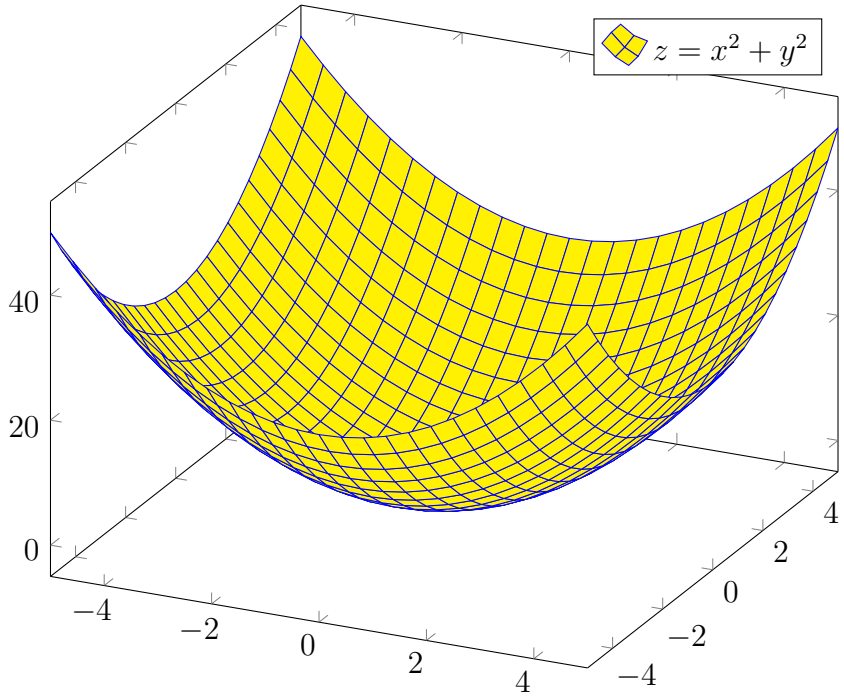
2.3 Changing Perspective



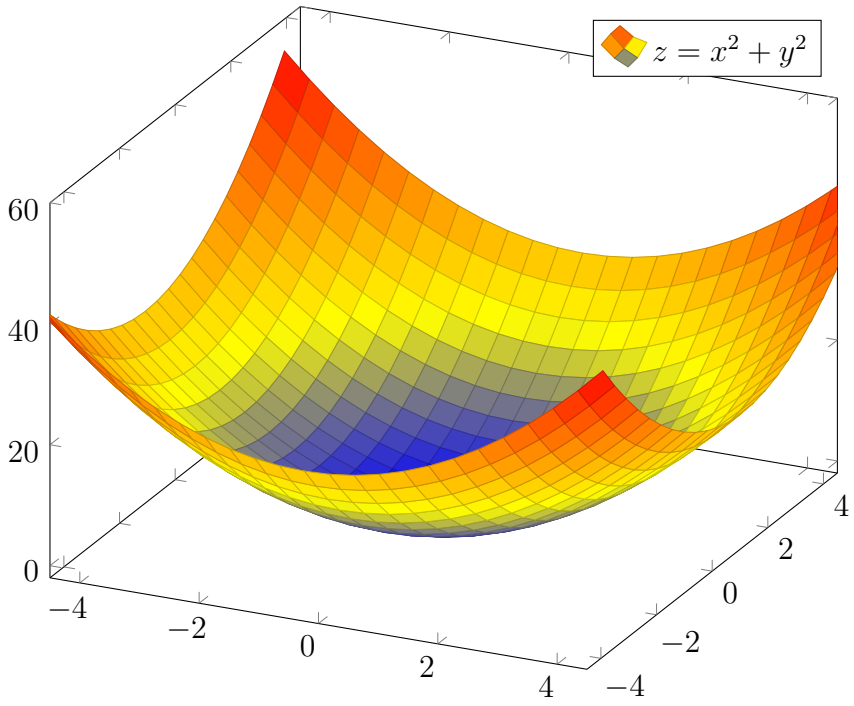
2.4 Types of Color Map



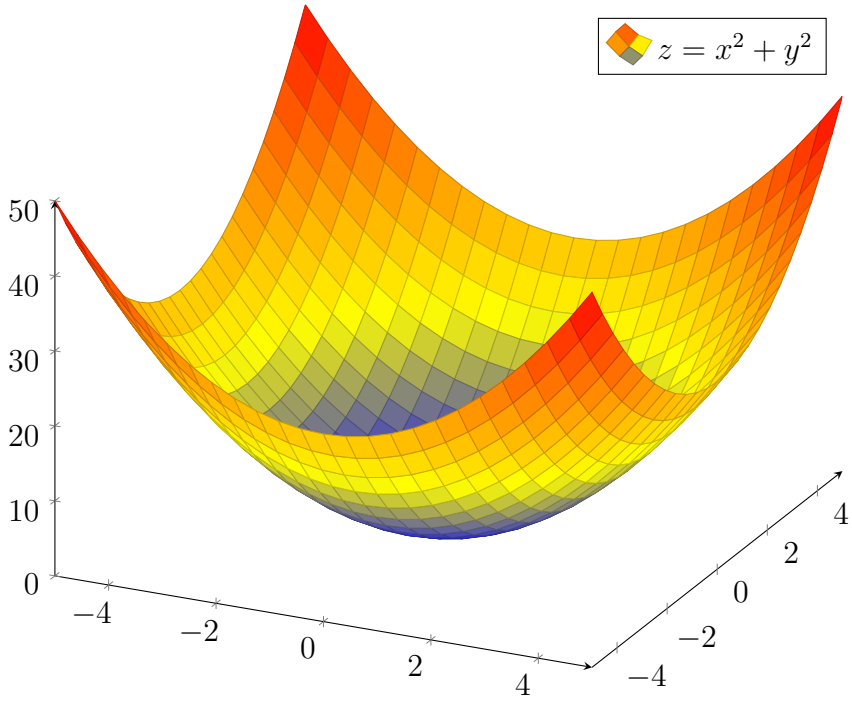
2.5 Solid Colors



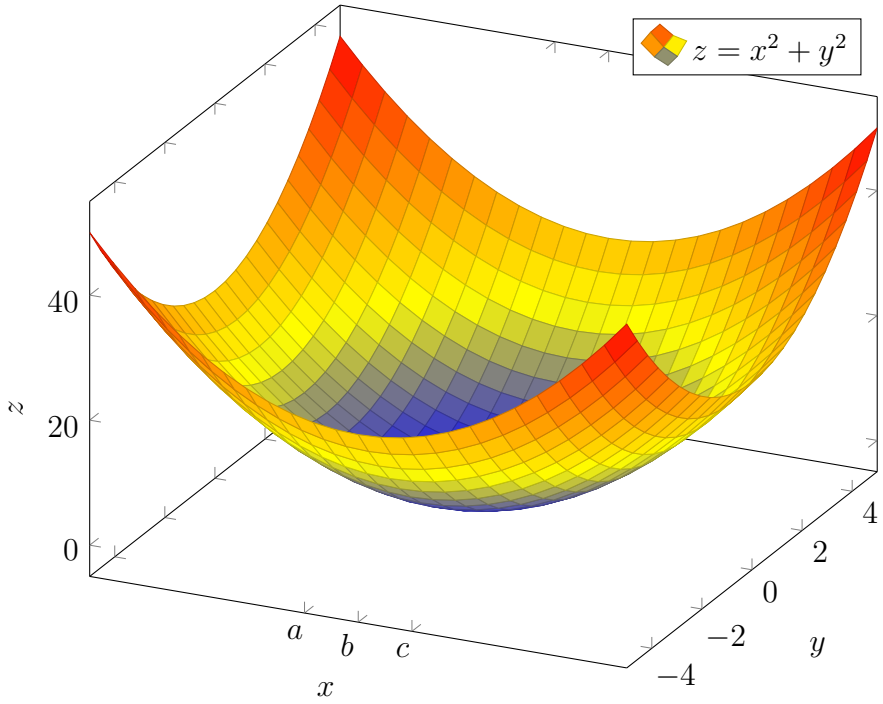
2.6 Ranges of Axes



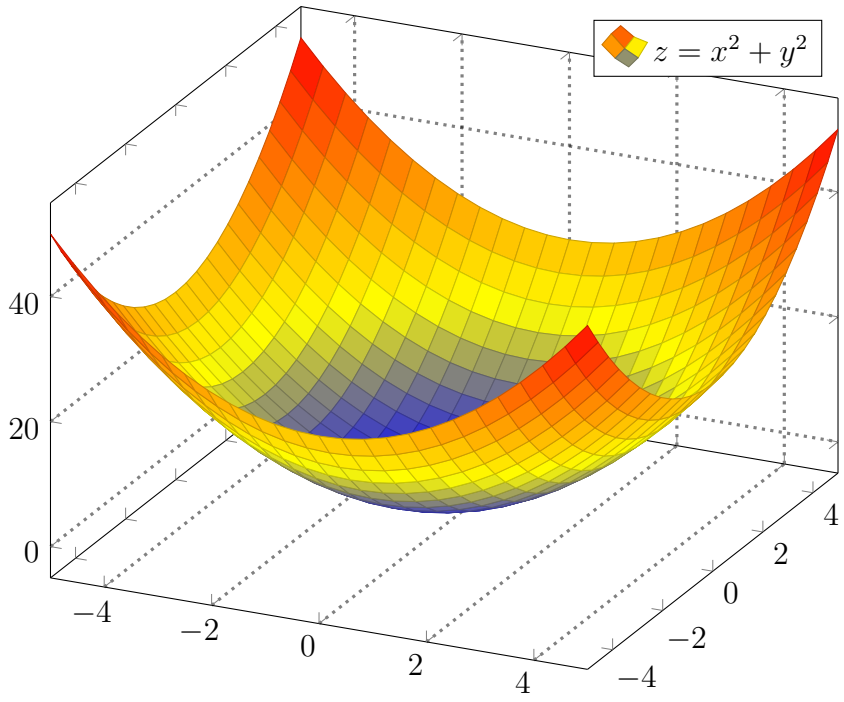
2.7 Axis Position



2.8 Axes Labels Ticks

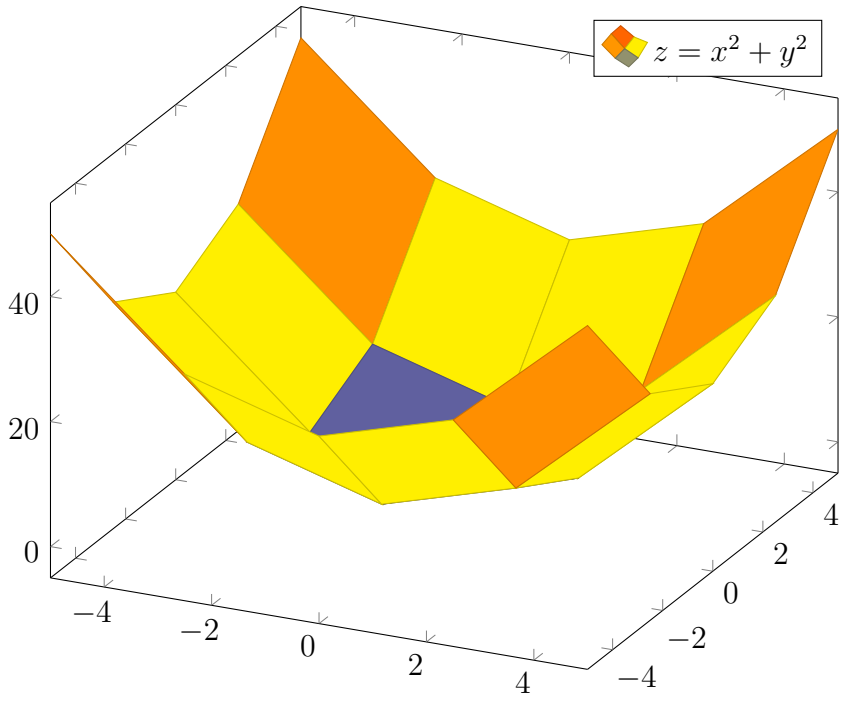


2.9 Major Gridlines

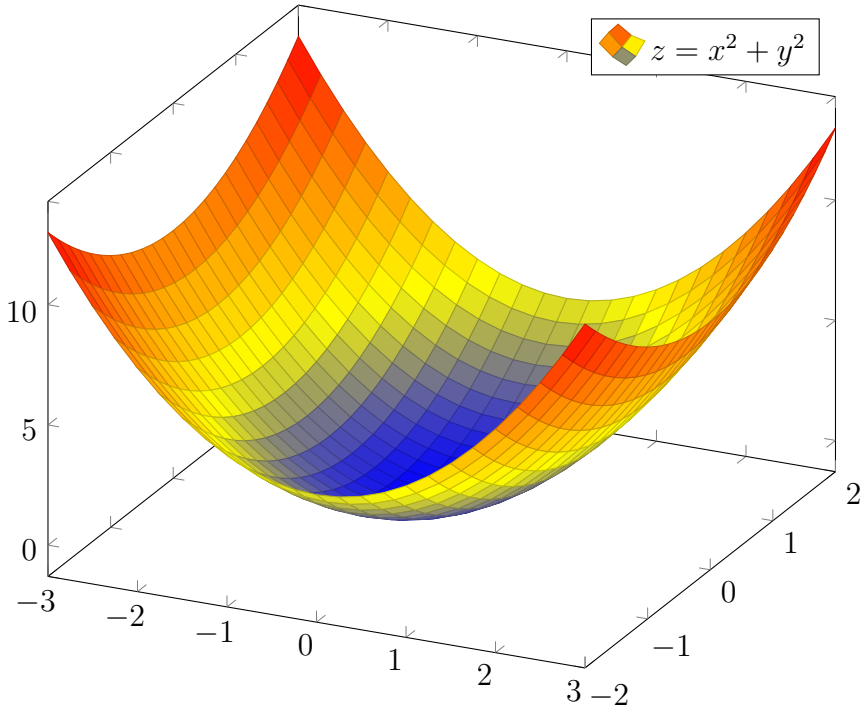


Line Style: solid, (loosely or densely) dotted/dashed
Thickness: ultra thick/thin, very thick/thin, thick/thin

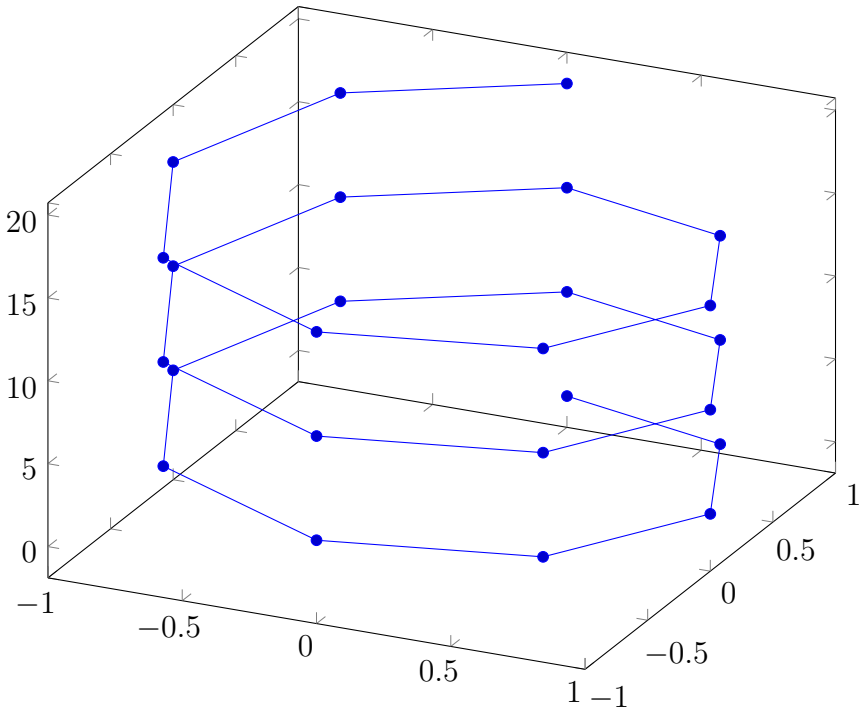
2.10 Samples



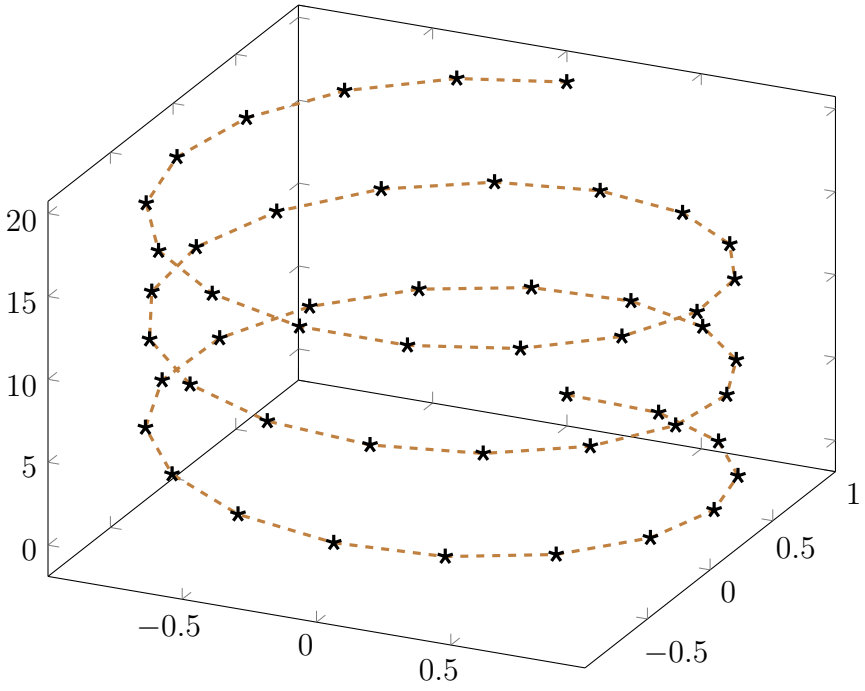
2.11 Domains



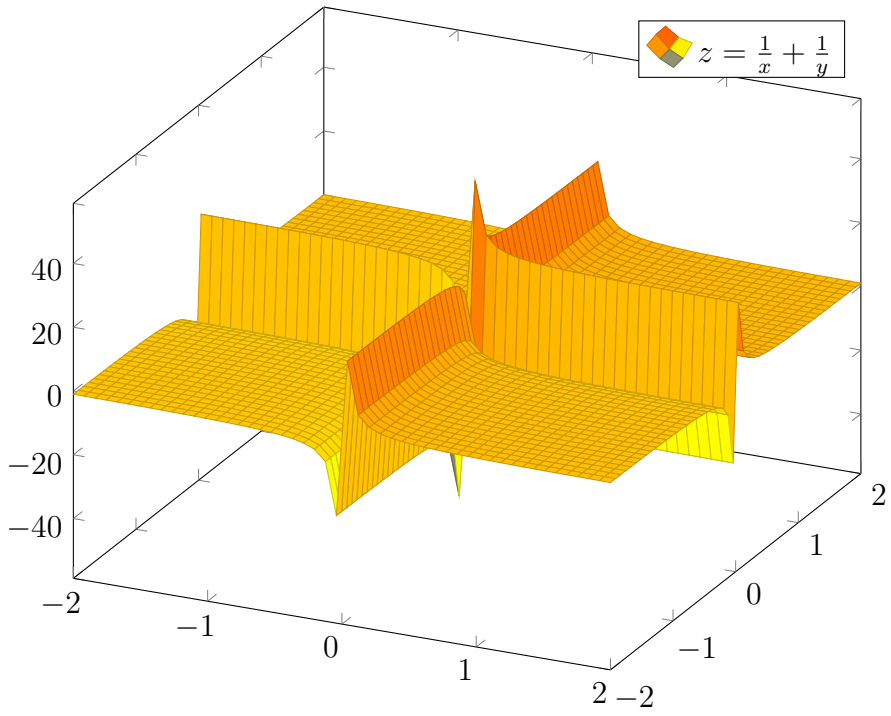
2.12 Example: Creating a 3D Parametric Plot



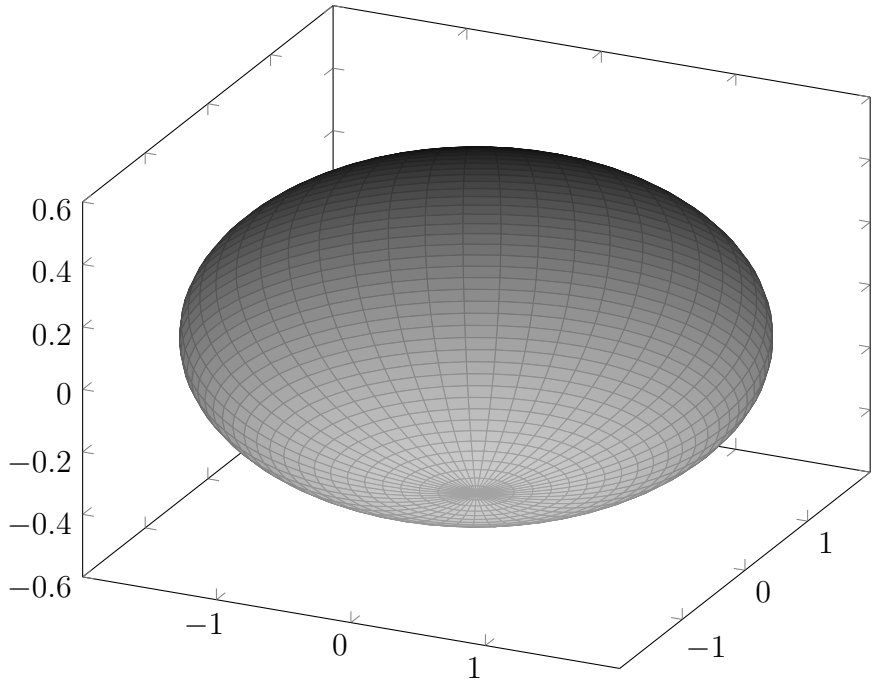
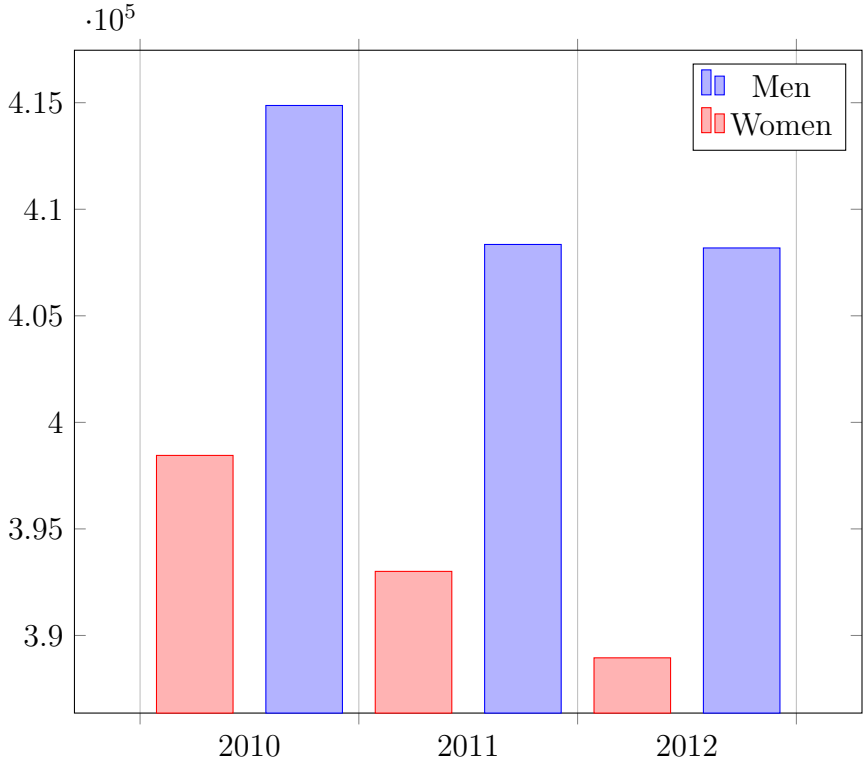
2.13 Other Customisations for Parametric Plots



2.14 Practice



Ellipsoid $(\{(2\cos\theta\sin\phi), (2\sin\theta\sin\phi), (0.5\cos\phi)\}$



3 Bar Plots