

Author Name

A Textbook For

Subject Name

*Subtitle*

More Text Can Go here

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# Chapter 1

## Relations and Functions

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# Chapter 2

## Basics

### 2.1 Functions and Environments

#### Objectives

In this section, we learn how to create useful layouts. We will

- learn to place figures within the main column of text.
- learn to place figures that go into the margin.
- learn to place figures within the margin.
- learn to place figures side-by-side in different ways.

Some text...

This is how you refer to Table 2.2, which is defined below in the “.tex” file.

This is how you make a list to denote an example with parts. This paragraph will be indented. It uses the environment *benumerate* to start the list environment on the second level and with bold styling.

- a. first
- b. second
- c. third

If your list is small enough to fit one line, use the *ienumerate* environment.

- a. first
- b. second
- c. third

**Theorem 2.1 — Pythagorean Theorem.** For any right triangle with legs  $a$ ,  $b$  and hypotenuse  $c$ , the following is always true:

$$c^2 = a^2 + b^2$$

**Definition 2.1 — Triangle.** A **triangle** is a polygon with three sides.

**Example 2.1 — Optional Name of Example.** Text goes here. Solve the equation  $x + 1 = 4$ .

**Solution.** To solve we subtract 1.

$$\begin{aligned}x + 1 &= 3 \\x &= 3 - 1 \\x &= 2\end{aligned}$$

Do not leave blank lines at the end of the solution environment. Otherwise, the black square will be misplaced. ■

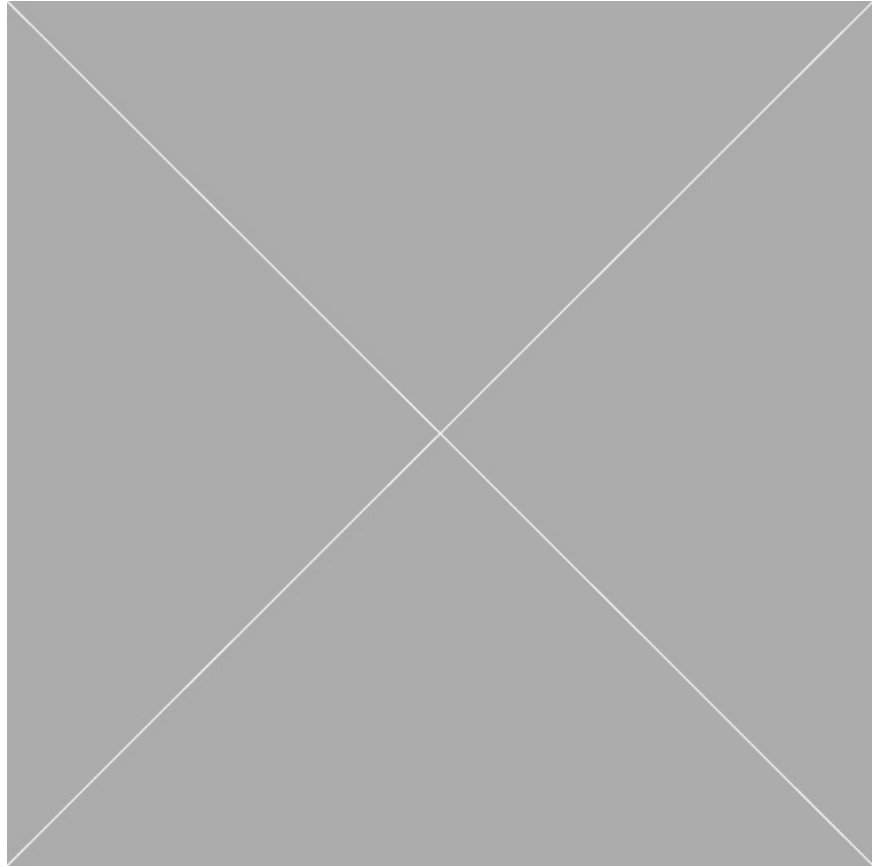
**Exercise 2.1 — Optional Name.** I would imagine this environment will be rarely used.

**Remark 2.1** This is an example of the remark environment. I would imagine this environment will be rarely used.

## 2.2 Examples of Figures and Tables

Dealing with figures in  $\text{\LaTeX}$  is not easy. This is a collection of all the ways to create figures. Figures are usually intended to be “floating,” which means that  $\text{\LaTeX}$  has discretion on where to place them within the document.

This is how you include an image, that is not intended to be a figure.



The following will have a non-floating figure. The figure will not move from the position it's placed

x	y	z
1	2	3

Table 2.1: This is a caption for a table that will be placed in the margin.

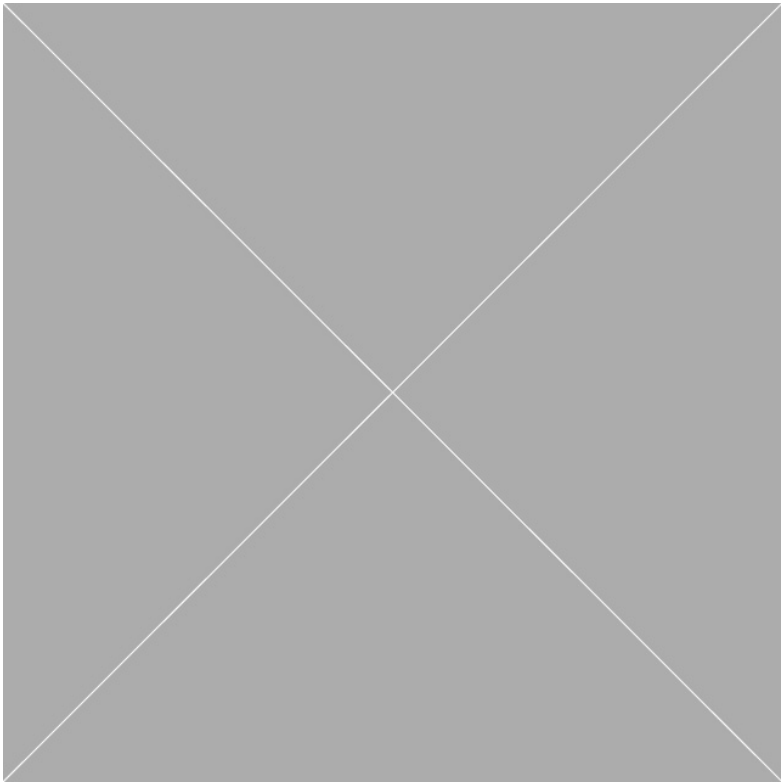


Figure 2.1: A non-floating figure. The figure will not move from the position it's placed

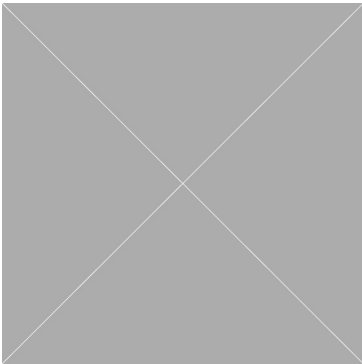


Figure 2.2: This is a how you put a figure in the margin.

x	y	z
1	2	3

Table 2.2: This is a caption for a table that will be placed in the main text.

This is a non-floating side-by-side figure.

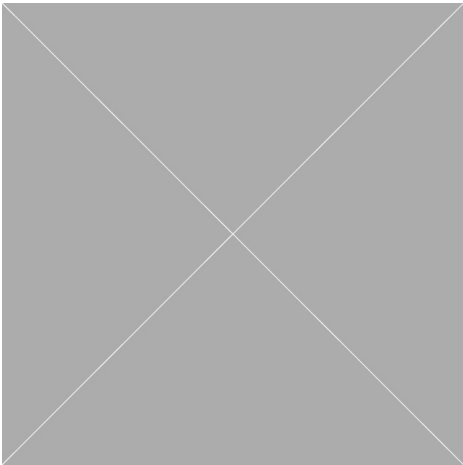


Figure 2.10: Side-by-side figures.

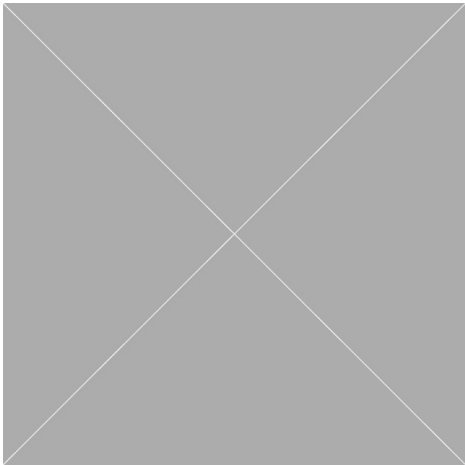


Figure 2.11: Side-by-side figures.



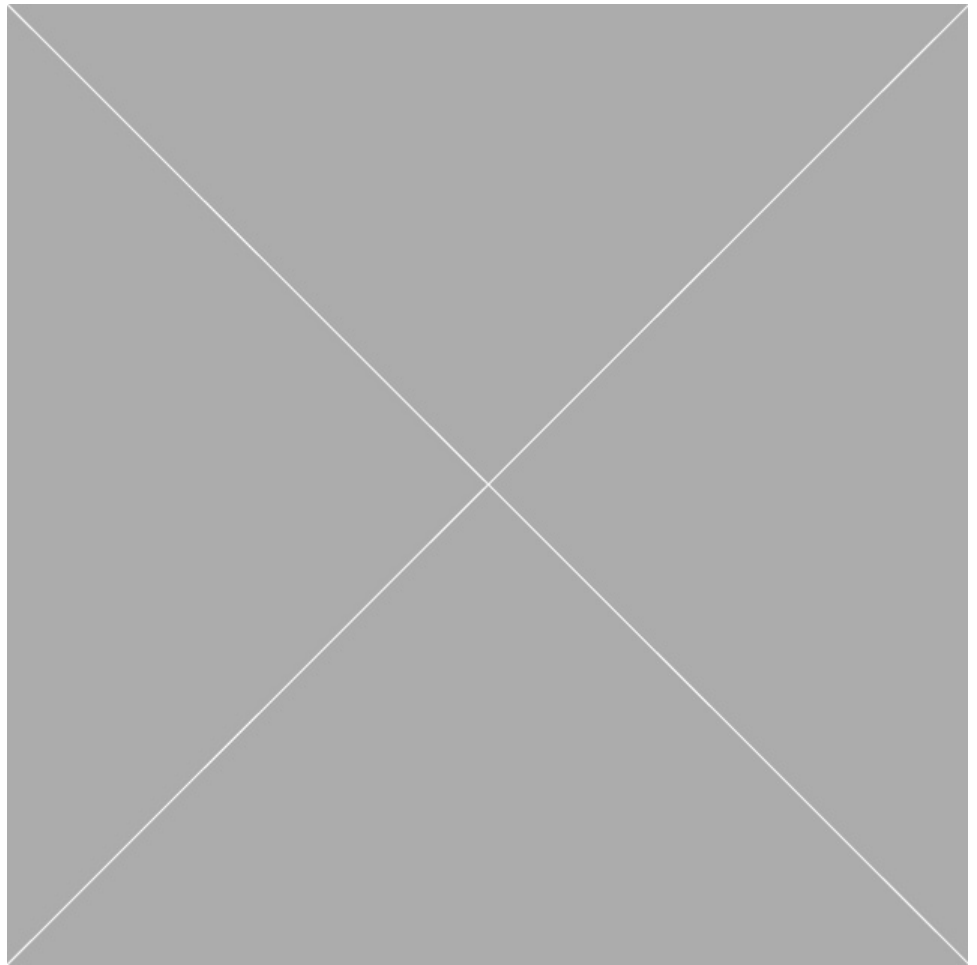


Figure 2.3: This is a how you put a floating figure in the main text.

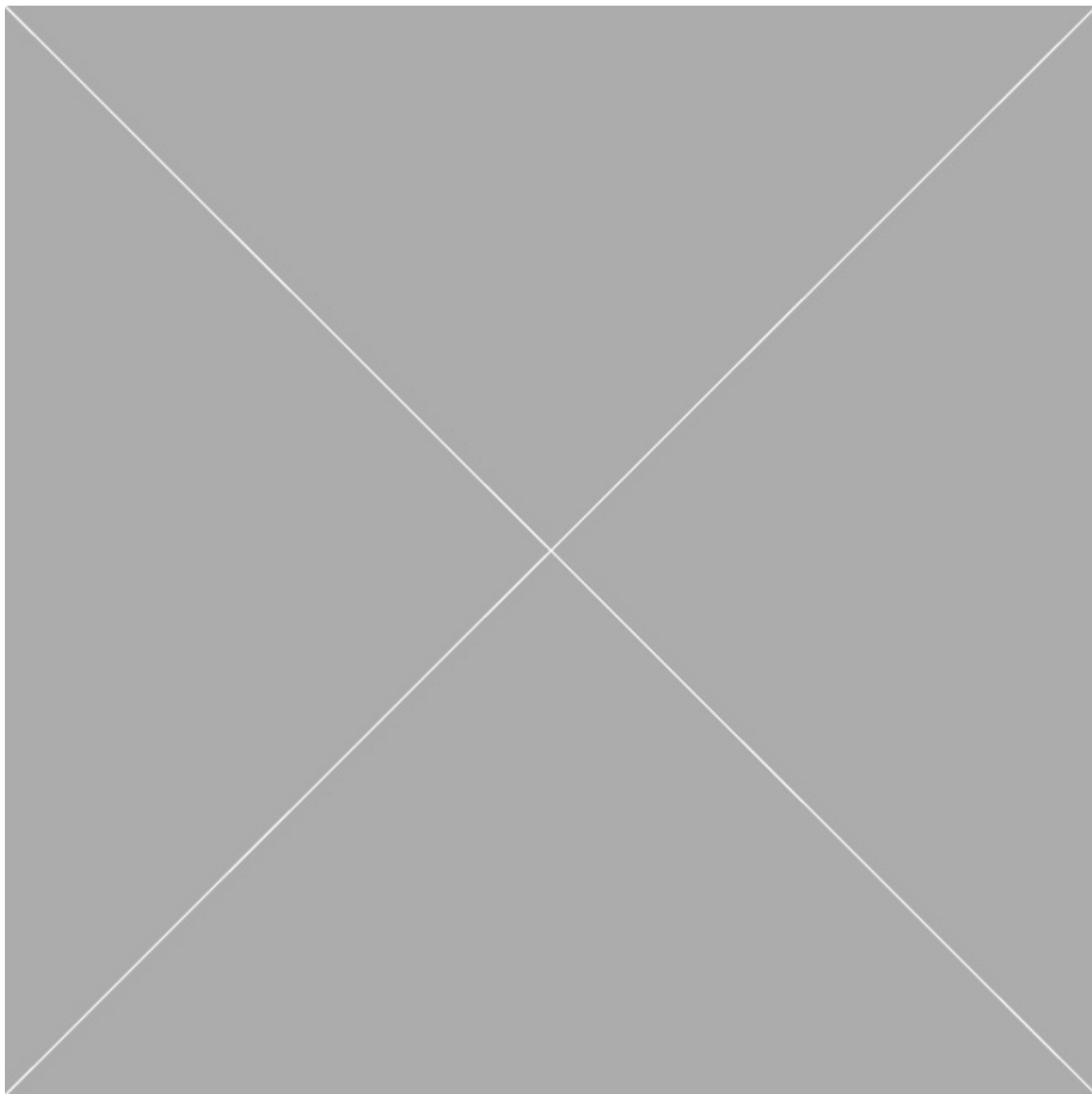
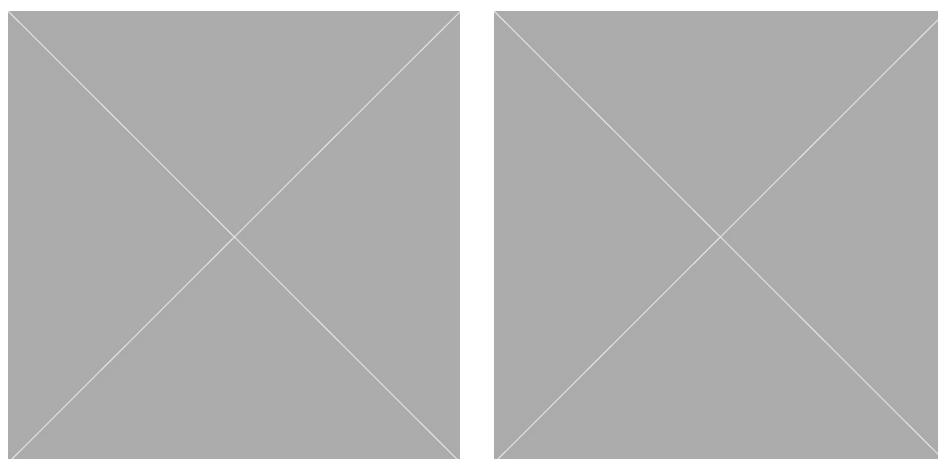


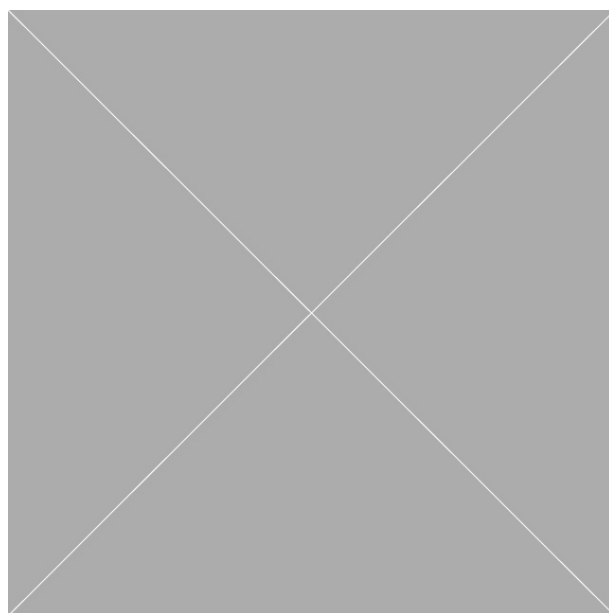
Figure 2.4: This is a how you put a **wide** floating figure in the main text.



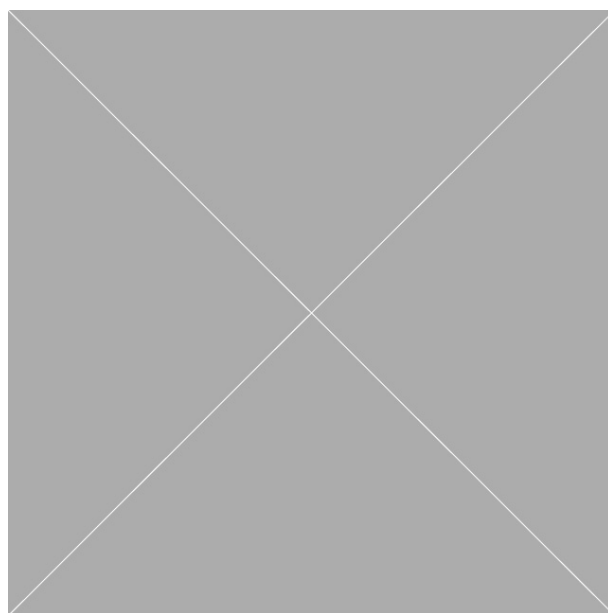
(a) This is a subcaption.

(b) This is another subcaption.

Figure 2.5: This is a how you put subfigures in a figure.

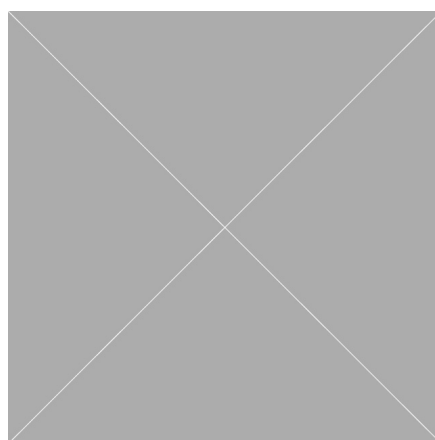


(a) This is a subcaption.

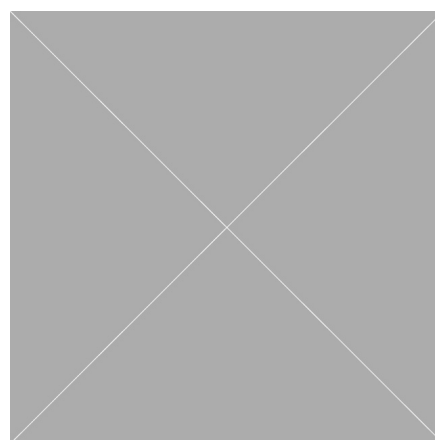


(b) This is another subcaption.

Figure 2.6: This is a how you put subfigures in a wide figure.



There is no subcaption heading here.



There is no subcaption heading here, either.

Figure 2.7: This is a how you put subfigures without a subcaption heading.

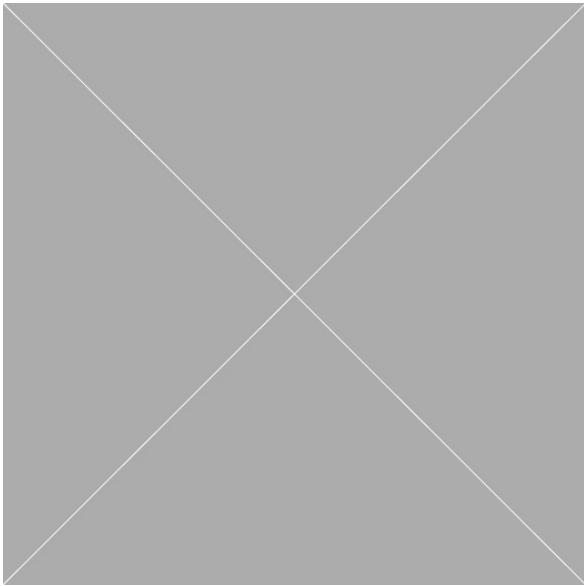


Figure 2.8: This is how you put side-by-side figures.

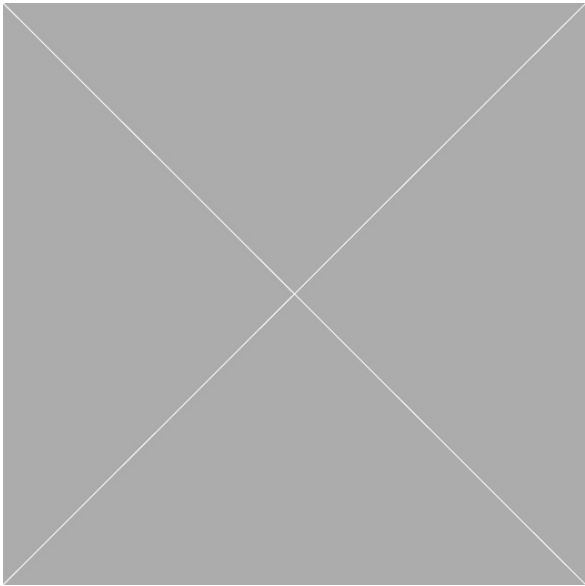


Figure 2.9: This is how you put side-by-side figures.

This is a floating table next to a figure.

x	y	z
1	2	3

Table 2.4: This is a caption for a table.

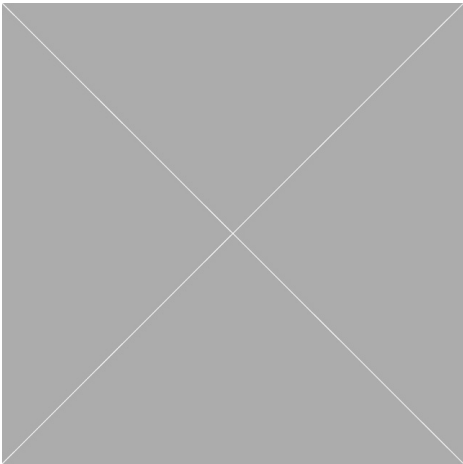


Figure 2.13: Side-by-side figures.

This is a non-floating table next to a figure.

x	y	z
1	2	3

Table 2.3: This is a caption for a table.

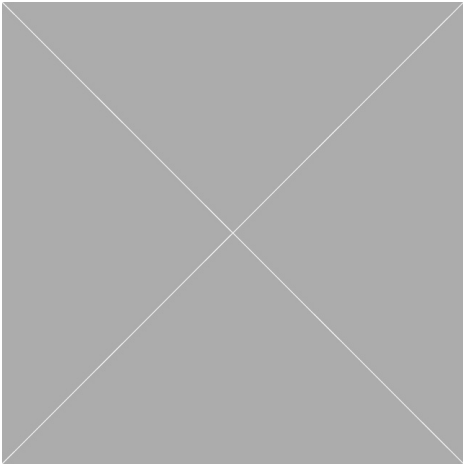


Figure 2.12: Side-by-side figures.

Figure 2.14: This is a figure with a caption in the margin.

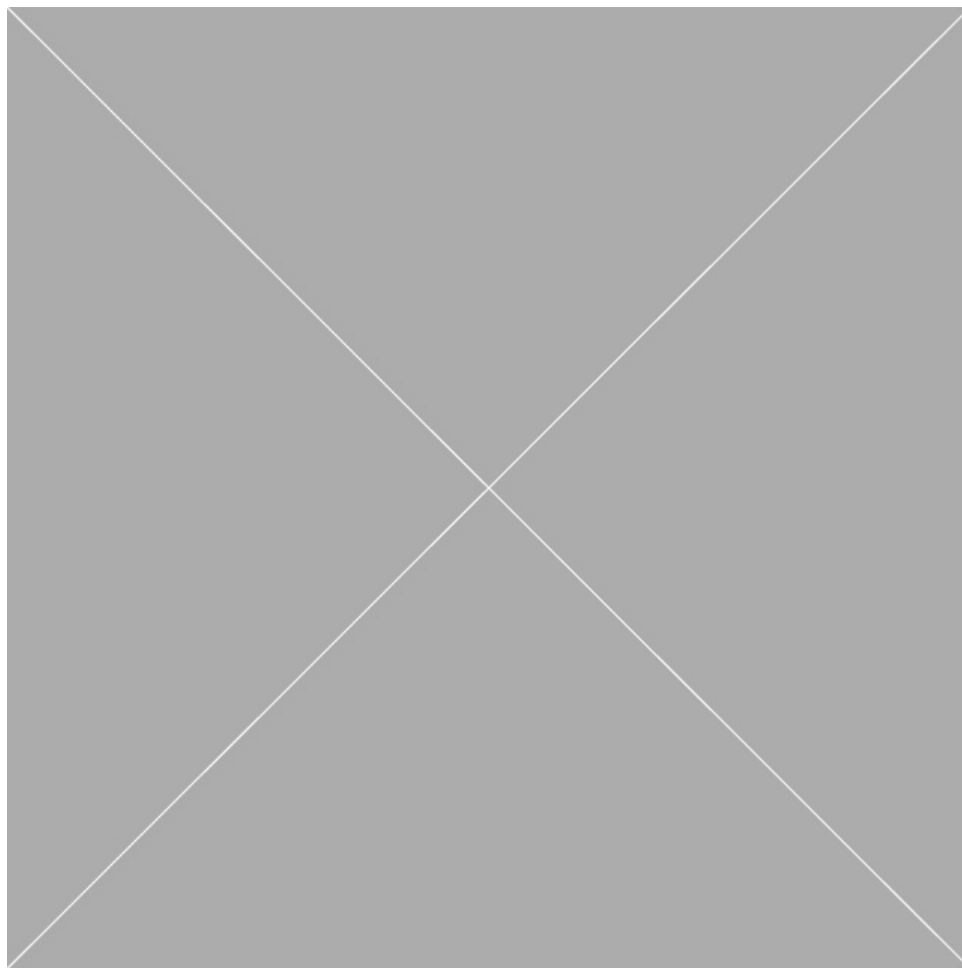


Figure 2.15: This is a figure with a caption in the margin.

