1. When typesetting a function using a colon, use `\colon` rather than : in order to get the correct spacing. The TeX code

`$f: A\to B$`

`$f\colon A\to B$`

yields

$f : A \to B$

$f\colon A \to B$

Notice how there is too much space after f in the first version.

2. A very useful construction:

```
\begin{align*}
  f\colon \R&\to\R_{\geq0}\\
  x&\mapsto x^2
\end{align*}
```

yields

$$f\colon \mathbb{R} \to \mathbb{R}_{\geq 0}$$
$$x \mapsto x^2$$

The & lines up the arrows, and `\mapsto` is the right arrow to use when specifying where an element is sent by f.

3. To place writing above an arrow, use `\xrightarrow`:

`$A\xrightarrow{f} B$`

`$A\xrightarrow{\text{a long arrow}}B$`

yields

$A \xrightarrow{f} B$

$A \xrightarrow{\text{a long arrow}} B$