`dimension.`   A *dimension* specifies a distance, that is, a linear measure of space. You use dimensions to specify sizes of things, such as the length of a line. Printers in English-speaking countries traditionally measure distance in points and picas, while printers in continental Europe traditionally measure distance in didôt points and ciceros. You can use these units or others, such as inches, that may be more familiar to you. The font-independent units of measure that TeX understands are:

`pt`	point (72.27 points = 1 inch)
`pc`	pica (1 pica = 12 points)
`bp`	big point (72 big points = 1 inch)
`in`	inch
`cm`	centimeter (2.54 centimeters = 1 inch)
`mm`	millimeter (10 millimeters = 1 centimeter)
`dd`	didôt point (1157 didôt points = 1238 points)
`cc`	cicero (1 cicero = 12 didôt points)
`sp`	scaled point (65536 scaled points = 1 point)

Two additional units of measure are associated with every font: 'ex', a vertical measure usually about the height of the letter 'x' in the font, and 'em', a horizontal measure usually equal to the point size of the font and about the width of the letter 'M' in the font. Finally, TeX provides three "infinite" units of measure: '`fil`', '`fill`', and '`filll`', in increasing order of strength.

A dimension is written as a factor, i.e, a multiplier, followed by a unit of measure. The factor can be either a whole number or a decimal constant containing a decimal point or decimal comma. The factor can be preceded by a plus or minus sign, so a dimension can be positive or negative. The unit of measure must be there, even if the number is zero. Spaces between the number and the unit of measure are permitted but not required. You'll find a precise definition of a dimension on page 270 of *The TeXbook*. Here are some examples of dimensions:

```
5.9in    0pt    -2,5 pc    2fil
```

The last of these represents a first-order infinite distance.

An infinite distance outweighs any finite distance or any weaker infinite distance. If you add `10in` to `.001fil`, you get `.001fil`; if you add `2fil` to `-1fill` you get `-1fill`; and so forth. TeX accepts infinite distances only when you are specifying the stretch and shrink of glue.

TeX multiplies all dimensions in your document by a magnification factor $f/1000$, where f is the value of the `\mag` parameter. Since the default value of `\mag` is 1000, the normal case is that your document is typeset just as specified. You can specify a dimension as it will be measured in the final document independent of magnification by putting '`true`' in front of the unit. For instance, '`\kern 8 true pt`' produces a kern of 8 points whatever the magnification.