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$\asymp$	$\gg$	$\bowtie$
$\cong$	$\ll$	$\propto$
$\dashv$	$\models$	$\approx$
$\vdash$	$\neq$	$\sim$
$\perp$	$\neq$	$\simeq$
$\mid$	$\notin$	$\frown$
$\parallel$	$\in$	$\smile$
$\doteq$	$\ni$	$\subset$
$\equiv$	$\owns$	$\subseteq$
$\geq$	$\prec$	$\supset$
$\geq$	$\preceq$	$\supseteq$
$\leq$	$\succ$	$\sqsubseteq$
$\leq$	$\succeq$	$\sqsupseteq$

These commands produce the symbols for various relations. Relations are one of T<sub>E</sub>X's classes of math symbols. T<sub>E</sub>X puts different amounts of space around different classes of math symbols. When T<sub>E</sub>X needs to break a line of text within a math formula, it will consider placing the break after a relation—but only if the relation is at the outermost level of the formula, i.e., not enclosed in a group.

In addition to the commands listed here, T<sub>E</sub>X treats ‘=’ and the “arrow” commands (p. ‘arrows’) as relations.

Certain relations have more than one command that you can use to produce them:

- ‘ $\geq$ ’ ( $\geq$  and  $\geq$ ).
- ‘ $\leq$ ’ ( $\leq$  and  $\leq$ ).
- ‘ $\neq$ ’ ( $\neq$ ,  $\neq$ , and  $\neq$ ).
- ‘ $\ni$ ’ ( $\ni$  and  $\owns$ ).

You can produce negated relations by prefixing them with  $\not$ , as follows:

$\not\asymp$	$\not\leq$	$\not\simeq$
$\not\cong$	$\not\prec$	$\not\subset$
$\not\equiv$	$\not\preceq$	$\not\subseteq$
$\not=$	$\not\succ$	$\not\supset$
$\not\geq$	$\not\succeq$	$\not\supseteq$
$\not\geq$	$\not\approx$	$\not\sqsubseteq$
$\not\leq$	$\not\sim$	$\not\sqsupseteq$

*Example:*

We can show that  $AB \perp AC$ , and that  $\triangle ABF \not\sim \triangle ACF$ .

*produces:*

We can show that  $AB \perp AC$ , and that  $\triangle ABF \not\sim \triangle ACF$ .