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|                     |                     |                                     |
|---------------------|---------------------|-------------------------------------|
| $\vee$ \vee         | $\cdot$ \cdot       | $\triangleleft$ \triangleleft       |
| $\wedge$ \wedge     | $\diamond$ \diamond | $\triangleright$ \triangleright     |
| $\amalg$ \amalg     | $\bullet$ \bullet   | $\bigtriangledown$ \bigtriangledown |
| $\cap$ \cap         | $\circ$ \circ       | $\bigtriangleup$ \bigtriangleup     |
| $\cup$ \cup         | $\bigcirc$ \bigcirc | $*$ \ast                            |
| $\uplus$ \uplus     | $\odot$ \odot       | $\star$ \star                       |
| $\sqcap$ \sqcap     | $\ominus$ \ominus   | $\times$ \times                     |
| $\sqcup$ \sqcup     | $\oplus$ \oplus     | $\div$ \div                         |
| $\dagger$ \dagger   | $\oslash$ \oslash   | $\backslash$ \setminus              |
| $\ddagger$ \ddagger | $\otimes$ \otimes   | $\wr$ \wr                           |
| $\land$ \land       | $\pm$ \pm           |                                     |
| $\lor$ \lor         | $\mp$ \mp           |                                     |

These commands produce the symbols for various binary operations. Binary operations 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 binary operation—but only if the operation is at the outermost level of the formula, i.e., not enclosed in a group.

In addition to these commands, T<sub>E</sub>X also treats ‘+’ and ‘-’ as binary operations. It considers ‘/’ to be an ordinary symbol, despite the fact that mathematically it is a binary operation, because it looks better with less space around it.

*Example:*

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$$z = x \div y \quad \text{if and only if} \quad z \times y = x \text{ and } y \neq 0$$


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*produces:*

$$z = x \div y \quad \text{if and only if} \quad z \times y = x \text{ and } y \neq 0$$