1

☞ $\bigcap$ $\bigcap$ \bigcap $\bigsqcup$ $\bigsqcup$ \bigsqcup $\smallint$ \smallint

$\bigcup$ $\bigcup$ \bigcup $\biguplus$ $\biguplus$ \biguplus $\int$ $\int$ \int

$\bigodot$ $\bigodot$ \bigodot $\bigvee$ $\bigvee$ \bigvee $\oint$ $\oint$ \oint

$\bigoplus$ $\bigoplus$ \bigoplus $\bigwedge$ $\bigwedge$ \bigwedge $\prod$ $\prod$ \prod

$\bigotimes$ $\bigotimes$ \bigotimes $\coprod$ $\coprod$ \coprod $\sum$ $\sum$ \sum

These commands produce various large operator symbols. TeX produces the smaller size when it's in text style and the larger size when it's in display style. Operators are one of TeX's classes of math symbols. TeX puts different amounts of space around different classes of math symbols.

The large operator symbols with '`big`' in their names are different from the corresponding binary operations (see p. '`binops`') such as `\cap` ($\cap$) since they usually appear at the beginning of a formula. TeX uses different spacing for a large operator than it does for a binary operation.

Don't confuse '$\sum$' (`\sum`) with 'Σ'(`\Sigma`) or confuse '$\prod$' (`\prod`) with 'Π' (`\Pi`). `\Sigma` and `\Pi` produce capital Greek letters, which are smaller and have a different appearance.

A large operator can have limits. The lower limit is specified as a subscript and the upper limit as a superscript.

Example:
  `$$\bigcap_{k=1}^r (a_k \cup b_k)$$`
produces:

$$\bigcap_{k=1}^r (a_k \cup b_k)$$

Example:
  `$${\int_0^\pi \sin^2 ax\,dx} = {\pi \over 2}$$`
produces:

$$\int_0^\pi \sin^2 ax\,dx = \frac{\pi}{2}$$