The **graphpap** package*

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\graphpaper\[(\langle N \rangle \langle X,Y \rangle \langle DX,DY \rangle)\) Makes a grid with left-hand corner at \((\langle X,Y \rangle)\), extending \((\langle DX,DY \rangle)\) units in the X and Y directions, where the lines are \(N\) units apart. Every fifth line is thick and is numbered. The default value of \(N\) is 10. The arguments must all be integers.

First, we define three counters. The first two are defined as raw TeX counters since multiplication and division must be performed in them.

\newcounter{@grid}
\let\c@@grid\count@

Next we define the following commands to draw vertical and horizontal grids. The “nonum” commands just draw the grids; the other commands also print numbers. All the arguments must be integers.

**VERTICAL GRIDS**
\def\@vgrid(#1,#2)#3#4#5{\setcounter{@grid}{#1}\multiput(#1,#2)(#3,0){#4}{\line(0,1){#5}}\multiput(#1,#2)(#3,0){#4}{\@vgridnumber{#3}}}
\def\@vgridnumber#1{\makebox(0,0)[t]{\shortstack{\rule{0pt}{10pt}\arabic{@grid}}}\addtocounter{@grid}{#1}}

**HORIZONTAL GRIDS**
\def\@hgrid(#1,#2)#3#4#5{\{\@hgrid\}}
\def\@hgrid(#1,#2)#3#4#5{\{\@hgrid\}}
\def\@nonumhgrid same as \@hgrid but no numbers drawn

\def\@vgrid(number-of-lines)\{\@vgrid(number-of-lines)\}
\def\@hgrid(number-of-lines)\{\@hgrid(number-of-lines)\}

\def\@vgridnumber#1{\makebox(0,0)[t]{\shortstack{\rule{0pt}{10pt}\arabic{@grid}}}\addtocounter{@grid}{#1}}

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Finally, \texttt{graphpaper} is defined in a straightforward way in terms of the commands above.

\begin{verbatim}
\newcommand\graphpaper[1][10]{\leavevmode@grid{#1}}
\end{verbatim}