The graphpap package∗

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\graphpaper[(N)]((X,Y))((DX,DY)) Makes a grid with left-hand corner at ((X,Y)), extending ((DX,DY)) 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.

\newcount\@gridx% now (@tempcnta)
\newcount\@gridy% now (@tempcntb)
\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
\vgrid((xpos,ypos){(xincrement)}{(number-of-lines)}{(length-of-lines)}
\nonumvgrid((xpos,ypos){(xincrement)}{(number-of-lines)}{(length-of-lines)}

HORIZONTAL GRIDS
\hgrid((xpos,ypos){(yincrement)}{(number-of-lines)}{(length-of-lines)}
\nonumhgrid same as \hgrid but no numbers drawn

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\def\@nonumvgrid(#1,#2)#3#4#5{%\multiput(#1,#2)(#3,0){#4}{\line(0,1){#5}}}\def\@hgrid(#1,#2)#3#4#5{%\setcounter{@grid}{#2}\multiput(#1,#2)(0,#3){#4}{\line(1,0){#5}}\multiput(#1,#2)(0,#3){#4}{\@hgridnumber{#3}}}\def\@hgridnumber#1{%\makebox(0,0)[r]{\arabic{@grid}\hspace{10pt}}\addtocounter{@grid}{#1}}\def\@nonumhgrid(#1,#2)#3#4#5{%\multiput(#1,#2)(0,#3){#4}{\line(1,0){#5}}} Finally, \texttt{graphpaper} is defined in a straightforward way in terms of the commands above.
\newcommand\graphpaper[1][10]{{\leavevmode\@grid{#1}}}\@grid\def\@grid#1(#2,#3)#4{\@grid@i{#1}{#2}{#3}(}\@grid@i\def\@grid@i#1#2#3(#4,#5){%\@tempcnta=#4\relax\divide\@tempcnta#1\relax\advance\@tempcnta1\relax\\thinlines\@nonumvgrid(#2,#3){\@tempcnta}{#5}\@tempcnta#4\relax\divide\@tempcnta5\relax\\divide\@tempcnta1\relax\\advance\@tempcnta1\relax\\thicklines\@vgrid(#2,#3){\@tempcntb}{\@tempcnta}{#5}\@tempcnta#5\relax\divide\@tempcnta5\relax\\divide\@tempcnta1\relax\\advance\@tempcnta1\relax\\thinlines\@nonumhgrid(#2,#3){\@tempcnta}{#4}\@tempcnta#5\relax\divide\@tempcnta5\relax\\divide\@tempcnta1\relax\\advance\@tempcnta1\relax\\thicklines\@hgrid(#2,#3){\@tempcntb}{\@tempcnta}{#4})%\ignorepaces}(/package)