```
 exam.cls

 A LaTeX2e document class for preparing exams.

 Written by Philip Hirschhorn


lef\fileversion{2.0}
lef\filedate{1997/04/06}


.--------------------------------------------------------------------
.--------------------------------------------------------------------
 PLEASE DO NOT MAKE ANY CHANGES TO THIS FILE!

 If you wish to make changes to this file, rename this file
 to something other than exam.cls BEFORE YOU MAKE THE CHANGES!

 If there's some feature that you'd like that this file doesn't
 provide, tell me about it.

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 The user documentation for exam.cls is in the file examdoc.tex.


 Thanks to:

 Piet van Oostrum, from whose excellent ``fancyheadings.sty'' we
 shamelessly stole most of the code for setting the headers and
 footers.

 Mate Wierdl <mw@wierdlmpc.msci.memphis.edu>, who contributed the
 code so that if the number of points is ``1'', then the default
 value of \pointname will print ``1 point'' instead of ``1 points''.

 Tom Brikowski <brikowi@utdallas.edu>, who contributed the code for
 making the number of points and number of questions available as
 macros (as well as the idea of putting the number of points in a
 box, instead of in parentheses).  (I changed his code to make this
 all optional, so if there are errors there, it's my fault and not
 his.)
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NeedsTeXFormat{LaTeX2e}

ProvidesClass{exam}[\filedate\space Version \fileversion\space by
 Philip Hirschhorn]

RequirePackage{ifthen}

DeclareOption*{%
 \PassOptionsToClass{\CurrentOption}{article}%

ProcessOptions
LoadClass{article}



                        *****************
                        ** PAGE LAYOUT **
                        *****************


setlength{\textwidth}{6.5in}
setlength{\oddsidemargin}{0pt}
setlength{\evensidemargin}{0pt}


setlength{\headheight}{15pt}
setlength{\headsep}{15pt}
setlength{\topmargin}{0in}
addtolength{\topmargin}{-\headheight}
addtolength{\topmargin}{-\headsep}
setlength{\textheight}{8.8in}
setlength{\footskip}{29pt}
setlength{\marginparwidth}{.5in}
setlength{\marginparsep}{5pt}

-------------------------------------------------------------------

                         ****************
                         ** EXTRAWIDTH **
                         ****************

newlength\@extrawidth

 We put the argument of \extrawidth into a length so that it will
 work correctly even if it's negative:

def\extrawidth#1{%
```

```
\@extrawidth=#1
\advance \textwidth by \@extrawidth
\divide\@extrawidth by 2
\advance\oddsidemargin by -\@extrawidth
\advance\evensidemargin by -\@extrawidth




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            Making room for large headers and footers

The following are used to save the effect of any changes to
\topmargin and \textheight caused by \extraheadheight or
\extrafootheight commands.  They hold the value given in the most
recent command.  We put them into a length so that it will work
correctly even if the argument is negative:

ewlength\@extrahead
ewlength\@extrafoot
etlength{\@extrahead}{0in}
etlength{\@extrafoot}{0in}


ef\extraheadheight{%
\@ifnextchar[{\@doextraheads}%
             {\@setheadheight}%


ef\@doextraheads[#1]#2{%
\@setheadheight{#1}%
\@appendoutput{\ifnum\thepage=2\@setheadheight{#2}\fi}%



ef\extrafootheight{%
\@ifnextchar[{\@doextrafeet}%
             {\@setfootheight}%


ef\@doextrafeet[#1]#2{%
\@setfootheight{#1}%
\@appendoutput{\ifnum\thepage=2\@setfootheight{#2}\fi}%


ef\@appendoutput#1{%
\output=\expandafter{\the\output #1}%
```

```
-------------------------------------------------------------------
                 \setheadheight and \setfootheight:

lef\@setheadheight#1{%
 \begingroup % Avoid trouble from using \@temp and \@spaces
   % Reset the effect of the most recent change:
   \global\advance\topmargin by -\@extrahead
   \global\advance\textheight by \@extrahead
   % Save the newly set value:
   \def\@temp{#1}
   \def\@spaces{ }
   \ifx\@temp\@empty
     \global\@extrahead=0in
   \else
     \ifx\@temp\@spaces
       \global\@extrahead=0in
     \else
       \global\@extrahead=#1
     \fi
   \fi
   % Set the new values:
   \global\advance\topmargin by \@extrahead
   \global\advance\textheight by -\@extrahead
   % Make it take effect RIGHT NOW!:
   % (The following stuff isn't necessary if \@setheadheight is
   % executed only in the preamble or as we return from the output
   % routine, but we're leaving it in so that this will still work if
   % we use this at some random point in the middle of composing a
   % page).
   \global\@colht=\textheight
   \global\@colroom=\textheight
   \global\vsize=\textheight
   \global\pagegoal=\textheight
 \endgroup


lef\@setfootheight#1{%
 \begingroup % Avoid trouble from using \@temp and \@spaces
   % Reset the effect of the most recent change:
   \global\advance\textheight by \@extrafoot
   % Save the newly set value:
   \def\@temp{#1}
   \def\@spaces{ }
   \ifx\@temp\@empty
     \global\@extrafoot=0in
   \else
     \ifx\@temp\@spaces
       \global\@extrafoot=0in
     \else
       \global\@extrafoot=#1
     \fi
```

```
  \fi
  % Set the new values:
  \global\advance\textheight by -\@extrafoot
  % Make it take effect RIGHT NOW!:
  % (The following stuff isn't necessary if \@setfootheight is
  % executed only in the preamble or as we return from the output
  % routine, but we're leaving it in so that this will still work if
  % we use this at some random point in the middle of composing a
  % page).
  \global\@colht=\textheight
  \global\@colroom=\textheight
  \global\vsize=\textheight
  \global\pagegoal=\textheight
\endgroup




--------------------------------------------------------------------

                     *************************
                     ** HEADERS AND FOOTERS **
                     *************************

The pagestyles available are head, foot, headandfoot, and empty.
\pagestyle{head} prints the head, and gives an empty foot.
\pagestyle{foot} prints the foot, and gives an empty head.
\pagestyle{headandfoot} prints both the head and the foot.
\pagestyle{empty} gives an empty head and an empty foot.


                           Pagestyles:

lef\ps@head{%
\@dohead
\@nofoot


lef\ps@headandfoot{%
\@dohead
\@dofoot


lef\ps@foot{%
\@nohead
\@dofoot


lef\ps@empty{%
\@nohead
```

```
 \@nofoot




lef\@dohead{%
 \def\@oddhead{%
   \ifnum\value{page}=1
     \@fullhead
   \else
     \r@fullhead
   \fi
 }% @oddhead
 \let\@evenhead=\@oddhead


lef\@dofoot{%
 \def\@oddfoot{%
   \ifnum\value{page}=1
     \@fullfoot
   \else
     \r@fullfoot
   \fi
 }% @oddfoot
 \let\@evenfoot=\@oddfoot



lef\@nohead{%
 \def\@oddhead{}%
 \let\@evenhead=\@oddhead


lef\@nofoot{%
 \def\@oddfoot{}%
 \let\@evenfoot=\@oddfoot






------------------------------------------------------------------
       \@fullhead, \r@fullhead, \@fullfoot, and \r@fullfoot:

lef\@fullhead{%
 \vbox to \headheight{%
   \vss
   \hbox to \textwidth{%
     \rm\rlap{\parbox[b]{\textwidth}{\raggedright\@lhead\strut}}%
       \hss\parbox[b]{\textwidth}{\centering\@chead\strut}\hss
       \llap{\parbox[b]{\textwidth}{\raggedleft\@rhead\strut}}%
```

```
    }% hbox
    \if@headrule
      \hrule
    \else
      % an invisible hrule, to keep positioning constant:
      \hrule width 0pt
    \fi
  }% vbox
```

```
def\r@fullhead{%
  \vbox to \headheight{%
    \vss
    \hbox to \textwidth{%
      \rm\rlap{\parbox[b]{\textwidth}{\raggedright\r@lhead\strut}}%
        \hss\parbox[b]{\textwidth}{\centering\r@chead\strut}\hss
        \llap{\parbox[b]{\textwidth}{\raggedleft\r@rhead\strut}}%
    }% hbox
    \ifr@headrule
      \hrule
    \else
      % an invisible hrule, to keep positioning constant:
      \hrule width 0pt
    \fi
  }% vbox
```

We arrange it so that the very top of first line of text in the foot is at a fixed position on the page, whether or not there's a footrule:

```
def\@fullfoot{%
  \vbox to 0pt{%
    \if@footrule
      \hrule
    \else
      % an invisible hrule, to keep positioning constant:
      \hrule width 0pt
    \fi
    \vskip 3pt
    \hbox to \textwidth{%
      \rm\rlap{\parbox[t]{\textwidth}{\raggedright\@lfoot}}%
        \hss\parbox[t]{\textwidth}{\centering\@cfoot}\hss
        \llap{\parbox[t]{\textwidth}{\raggedleft\@rfoot}}%
    }% hbox
    \vss
  }% vbox
```

```
def\r@fullfoot{%
\vbox to 0pt{%
  \ifr@footrule
    \hrule
  \else
    % an invisible hrule, to keep positioning constant:
    \hrule width 0pt
  \fi
  \vskip 3pt
  \hbox to \textwidth{%
    \rm\rlap{\parbox[t]{\textwidth}{\raggedright\r@lfoot}}%
      \hss\parbox[t]{\textwidth}{\centering\r@cfoot}\hss
      \llap{\parbox[t]{\textwidth}{\raggedleft\r@rfoot}}%
  }% hbox
  \vss
}% vbox



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           ********************************************
           ** COMMANDS TO DEFINE HEADERS AND FOOTERS **
           ********************************************

\lhead[#1]{#2} sets the first page left head to #1, and the
  running left head to #2

\lhead{#1} sets both the first page left head and the running
  left head to #1

\chead, \rhead, \lfoot, \cfoot, and \rfoot work similarly.


\@lhead is the left head for Page 1
\r@lhead is the running left head
(i.e., for all pages other than the first)

\@chead is the center head for Page 1
\r@chead is the running center head
(i.e., for all pages other than the first)

etc.

Alternative commands are:
\firstpageheader{LEFT}{CENTER}{RIGHT}
\runningheader{LEFT}{CENTER}{RIGHT}
or
```

```
 \header{LEFT}{CENTER}{RIGHT}
 which is equivalent to the two commands
          \firstpageheader{LEFT}{CENTER}{RIGHT}
          \runningheader{LEFT}{CENTER}{RIGHT}

 Alternative commands are:
 \firstpagefooter{LEFT}{CENTER}{RIGHT}
 \runningfoother{LEFT}{CENTER}{RIGHT}
 or
 \footer{LEFT}{CENTER}{RIGHT}
 which is equivalent to the two commands
          \firstpagefooter{LEFT}{CENTER}{RIGHT}
          \runningfoother{LEFT}{CENTER}{RIGHT}

lef\firstpageheader#1#2#3{%
 \def\@lhead{#1}%
 \def\@chead{#2}%
 \def\@rhead{#3}%


lef\runningheader#1#2#3{%
 \def\r@lhead{#1}%
 \def\r@chead{#2}%
 \def\r@rhead{#3}%


lef\header#1#2#3{%
 \firstpageheader{#1}{#2}{#3}%
 \runningheader{#1}{#2}{#3}%



lef\firstpagefooter#1#2#3{%
 \def\@lfoot{#1}%
 \def\@cfoot{#2}%
 \def\@rfoot{#3}%


lef\runningfooter#1#2#3{%
 \def\r@lfoot{#1}%
 \def\r@cfoot{#2}%
 \def\r@rfoot{#3}%


lef\footer#1#2#3{%
 \firstpagefooter{#1}{#2}{#3}%
 \runningfooter{#1}{#2}{#3}%
```

```
def\lhead{\@ifnextchar[{\@xlhead}{\@ylhead}}
def\@xlhead[#1]#2{\def\@lhead{#1}\def\r@lhead{#2}}
def\@ylhead#1{\def\r@lhead{#1}\def\@lhead{#1}}

def\chead{\@ifnextchar[{\@xchead}{\@ychead}}
def\@xchead[#1]#2{\def\@chead{#1}\def\r@chead{#2}}
def\@ychead#1{\def\r@chead{#1}\def\@chead{#1}}

def\rhead{\@ifnextchar[{\@xrhead}{\@yrhead}}
def\@xrhead[#1]#2{\def\@rhead{#1}\def\r@rhead{#2}}
def\@yrhead#1{\def\r@rhead{#1}\def\@rhead{#1}}

def\lfoot{\@ifnextchar[{\@xlfoot}{\@ylfoot}}
def\@xlfoot[#1]#2{\def\@lfoot{#1}\def\r@lfoot{#2}}
def\@ylfoot#1{\def\r@lfoot{#1}\def\@lfoot{#1}}

def\cfoot{\@ifnextchar[{\@xcfoot}{\@ycfoot}}
def\@xcfoot[#1]#2{\def\@cfoot{#1}\def\r@cfoot{#2}}
def\@ycfoot#1{\def\r@cfoot{#1}\def\@cfoot{#1}}

def\rfoot{\@ifnextchar[{\@xrfoot}{\@yrfoot}}
def\@xrfoot[#1]#2{\def\@rfoot{#1}\def\r@rfoot{#2}}
def\@yrfoot#1{\def\r@rfoot{#1}\def\@rfoot{#1}}


                    Initialize head and foot:



pagestyle{headandfoot}

lhead{}
chead{}
rhead{}
lfoot{}
cfoot[]{Page \thepage}
rfoot{}





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-------------------------------------------------------------------------

                      Headrules and footrules:

newif\if@headrule
newif\ifr@headrule

def\firstpageheadrule{\@headruletrue}
def\nofirstpageheadrule{\@headrulefalse}
```

```
lef\runningheadrule{\r@headruletrue}
lef\norunningheadrule{\r@headrulefalse}

lef\headrule{\@headruletrue\r@headruletrue}
lef\noheadrule{\@headrulefalse\r@headrulefalse}



ıewif\if@footrule
ıewif\ifr@footrule

lef\firstpagefootrule{\@footruletrue}
lef\nofirstpagefootrule{\@footrulefalse}

lef\runningfootrule{\r@footruletrue}
lef\norunningfootrule{\r@footrulefalse}

lef\footrule{\@footruletrue\r@footruletrue}
lef\nofootrule{\@footrulefalse\r@footrulefalse}



                             Initialize:

ıoheadrule
ıofootrule



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                \numpages, \iflastpage, and \oddeven
    Also: \numpoints, \numquestions, \numparts, and \numsubparts

 Make the number of pages available as the macro \numpages,
 the number of points as \numpoints,
 the number of questions as \numquestions,
 the number of parts as \numparts, and
 the number of subparts as \numsubparts
lef\numpages{\pageref{@lastpage}}
lef\numpoints{\pageref{@numpoints}}
lef\numquestions{\pageref{@numquestions}}
lef\numparts{\pageref{@numparts}}
lef\numsubparts{\pageref{@numsubparts}}

;%\let\@realenddocument=\enddocument
;%\def\enddocument{\clearpage
;%   \if@filesw
;%     {\advance\c@page-1 \immediate\write\@mainaux
```

```
%       {\string\newlabel{@lastpage}{{}{\arabic{page}}}}%
%     }
%   \fi
%   \@realenddocument
%}

tEndDocument{\clearpage
 \if@filesw
   {\advance\c@page-1 \immediate\write\@mainaux
     {\string\newlabel{@lastpage}{{}{\arabic{page}}}}%
     \advance\c@page+1 % In case some other package looks at \c@page
     \immediate\write\@mainaux
     {\string\newlabel{@numpoints}{{}{\thenumpoints}}}%
     \immediate\write\@mainaux
     {\string\newlabel{@numquestions}{{}{\thenumquestions}}}%
     \immediate\write\@mainaux
     {\string\newlabel{@numparts}{{}{\thenumparts}}}%
     \immediate\write\@mainaux
     {\string\newlabel{@numsubparts}{{}{\thenumsubparts}}}%
   }
 \fi
 % Echo numbers of questions, parts, and subparts:
 \typeout{This exam contains \thenumquestions\space questions
   with \thenumparts\space parts and
   \thenumsubparts\space subparts.}
 % If counting points, echo total points:
 \if@printtotalpoints
   \typeout{This exam has a total of \thenumpoints\space points.}
 \fi



We define \iflastpage so that it can safely be used
in headers and footers:
ef\iflastpage#1#2{%
    \@ifundefined{r@@lastpage}{\def\@@lastpage{-1}}%
            {\edef\@@lastpage{\expandafter\@cdr\r@@lastpage\@nil}}%
    \ifnum\value{page}=\@@lastpage
      #1%
    \else
      #2%
    \fi



The macro \oddeven takes two arguments.  If the page number is odd,
then you get the first argument; otherwise, you get the second
argument.
ef\oddeven#1#2{%
\ifodd\value{page}%
  #1
```

```
\else
  #2
\fi
```

```
--------------------------------------------------------------------

                   ***************************
                   ** QUESTION ENVIRONMENTS **
                   ***************************
```

We define the command \part only inside of a parts environment, so that we don't interfere with the meaning of the standard article documentclass command \part if that is used inside of a questions environment. The commands \question and \subpart are defined everywhere inside of a questions environment. (If the user accidentally gives a \subpart command outside of a subparts environment, then a warning will be printed, and the \subpart command will be treated as either a \question command or a \part command (depending on the current environment).

We use the counter name `partno' for the parts environment so that we will not interfere with the counter `part' used by the article document class.

```
;%\@definecounter{question}
;%\@definecounter{partno}
;%\@definecounter{subpart}
ıewcounter{question}
ıewcounter{partno}
ıewcounter{subpart}
ıewcounter{numpoints}
ıewcounter{numquestions}
ıewcounter{numparts}
ıewcounter{numsubparts}


ıewenvironment{questions}%
 {\def\@queslevel{question}%
   \def\question{%
```

```
      \@checkqueslevel{question}%
      \addtocounter{numquestions}{1}%
      \@doitem
    }%
    \def\subpart{%
      \@checkqueslevel{subpart}%
      \addtocounter{numsubparts}{1}%
      \@doitem
    }%
    \list{\thequestion.}%
    {\usecounter{question}\def\makelabel##1{\hss\llap{##1}}%
      \def\thequestion{\arabic{question}}%
      \settowidth{\leftmargin}{10.\hskip\labelsep}
      \labelwidth\leftmargin\advance\labelwidth-\labelsep
      \partopsep=0pt
    }%
  }%
  {\endlist}

newenvironment{parts}%
  {\def\@queslevel{part}%
     \def\part{%
       \@checkqueslevel{part}%
       \addtocounter{numparts}{1}%
       \@doitem
     }%
     \list{(\thepartno)}%
     {\usecounter{partno}\def\makelabel##1{\hss\llap{##1}}%
       \def\thepartno{\alph{partno}}%
       \settowidth{\leftmargin}{(m)\hskip\labelsep}
       \labelwidth\leftmargin\advance\labelwidth-\labelsep
       \topsep=0pt
       \partopsep=0pt
     }%
  }%
  {\endlist}

newenvironment{subparts}%
  {\def\@queslevel{subpart}%
     \list{\thesubpart.}%
     {\usecounter{subpart}\def\makelabel##1{\hss\llap{##1}}%
       \def\thesubpart{\roman{subpart}}%
       \settowidth{\leftmargin}{vii.\hskip\labelsep}
       \labelwidth\leftmargin\advance\labelwidth-\labelsep
       \topsep=0pt
       \partopsep=0pt
     }%
  }%
  {\endlist}
```

```
lef\@checkqueslevel#1{%
  \begingroup
    \def\@temp{#1}%
    \ifx\@temp\@queslevel
      % Everything's fine; do nothing.
    \else
      \@warning{I found a #1 where I expected to find a \@queslevel}
    \fi
  \endgroup



lef\@doitem{\@ifnextchar[{\@readpoints}{\item\@setpoints}}

lef\@readpoints[#1]{%
 \edef\@points{#1}%
 \@placepointstrue
 \if@addpoints
   \addtocounter{numpoints}{\@points}
 \fi
 \item
 \@setpoints



lef\@setpoints{%
 % The \item command sets \everypar so that the first time we enter
 % horizontal mode (which will cause \everypar to be added to the
 % paragraph), the label (or labels, if, e.g., a \question begins
 % with a parts environment) will be placed on the page, a couple
 % of other bookkeeping chores are done, and then \everypar is
 % set to the empty token string (so that none of this will be
 % repeated for the following paragraphs).
 %
 % We check to see if there are points to be placed for this item.
 % if so, we append either
 %   \llap{(\@points)\hskip\@totalleftmargin\hskip\marginpointssep}%
 %         \@placepointsfalse
 % or
 %   (\@points\@pointname)\enspace\@placepointsfalse
 % to \everypar, so that the number of points will be set whenever
 % we first enter horizontal mode, and the flag to set points will
 % be turned off.  (Actually, that's what we do if \if@boxedpoints is
 % false; if it's true, we do the analgoous thing with commands that
 % use \fbox instead of parentheses.)  (Resetting the flag is put
 % into \everypar so that if another \item is encounteres before we
 % actually enter horizontal mode, we'll put this back into the new
 % version of \everypar that will be created by that \item.)
 \if@placepoints
   \if@pointsinmargin
     \if@boxedpoints
       \everypar=\expandafter{\the\everypar
```

```
           \llap{\fbox{\@points\@marginpointname}\hskip\@totalleftmargin
                 \hskip\marginpointssep}%
           \@placepointsfalse}%
     \else
       \everypar=\expandafter{\the\everypar
           \llap{(\@points\@marginpointname)\hskip\@totalleftmargin
                 \hskip\marginpointssep}%
           \@placepointsfalse}%
     \fi
   \else
     \if@boxedpoints
       \everypar=\expandafter{\the\everypar
           \fbox{\@points\@pointname}\enspace\@placepointsfalse}%
     \else
       \everypar=\expandafter{\the\everypar
           (\@points\@pointname)\enspace\@placepointsfalse}%
     \fi
   \fi
 \fi
% @setpoints

newif\if@placepoints
@placepointsfalse



 If the user says \pointsinmargin, then the distance from
 the right parentheses enclosing the points to the left margin
 will be \marginpointssep:
newskip\marginpointssep
setlength{\marginpointssep}{5pt}

newif\if@pointsinmargin
def\pointsinmargin{\global\@pointsinmargintrue}
def\nopointsinmargin{\global\@pointsinmarginfalse}
@pointsinmarginfalse

newif\if@boxedpoints
def\boxedpoints{\global\@boxedpointstrue}
def\noboxedpoints{\global\@boxedpointsfalse}
@boxedpointsfalse



def\pointname#1{\gdef\@pointname{#1}}
 Initialize to leave a space, and then the word `points':
%\pointname{ points}
 The following improvement was contributed by
 Mate Wierdl <mw@wierdlmpc.msci.memphis.edu>
 If the number of points is ``1'', then the default value of
 \pointname will print `` point'' instead of `` points'' (and this
 version of the command doesn't generate an error message if the
 points entry is something other than a number):
ointname{ \ifthenelse{\equal{\@points}{1}}{point}{points}}

 If we used the following line instead, then you'd get an error
 message if the point value contained something other than a valid
 integer:
pointname{ \ifthenelse{\@points = 1}{point}{points}}

 \@marginpointname is used in place of \@pointname if
 \@pointsinmargin is true:
ef\marginpointname#1{\gdef\@marginpointname{#1}}
arginpointname{}


 The following keeps track of whether the user has requested that we
 add up the points on the exam.  We make the default false so that
 users who put other than numbers into the points argument of a
 question (or part, or subpart) won't get error messages.
 We use \if@printtotalpoints as a flag to signal that we are counting
 points, so that we will know to print the total on the screen (and
 in the log file).  We use this separate flag so that the user can
 use both \addpoints and \noaddpoints to count some points and not
 others, but still have the total printed when we finish the file no
 matter what the state of \if@addpoints.
ewif\if@addpoints
ewif\if@printtotalpoints
ef\addpoints{\global\@addpointstrue\global\@printtotalpointstrue}
ef\noaddpoints{\global\@addpointsfalse}
addpointsfalse
printtotalpointsfalse

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                      \uplevel and \fullwidth:

 \uplevel is used to print text at the indentation level of the
 enclosing environment.  For example, to precede a question with
 directions about how that question should be answered, you would
 say \uplevel{Answer this question correctly.}

 \fullwidth is similar, but uses the full page of text on the page.

ong\def\uplevel#1{%
 \par\bigskip
 \vbox{%
}   \advance\leftskip\@totalleftmargin
   \advance\leftskip-\leftmargin
   #1\par
 }% vbox
 \nobreak

long\def\fullwidth#1{%
 \par\bigskip
 \vbox{%
   \leftskip=0pt \rightskip=0pt
   #1\par
 }% vbox
 \nobreak

--------------------------------------------------------------------

endinput

--------------------------------------------------------------------
--------------------------------------------------------------------
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```