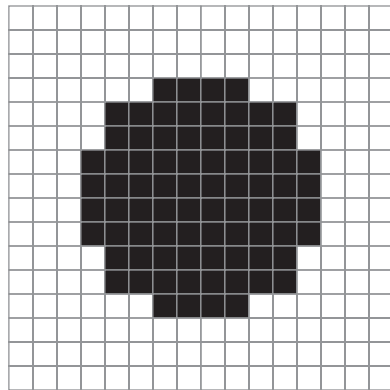
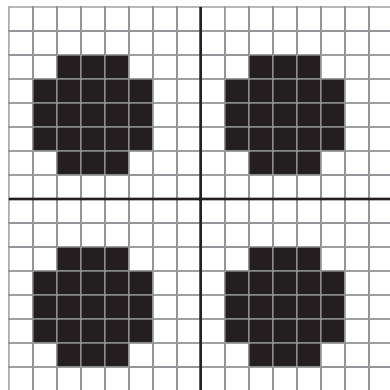


Excessive Screens



1/150th inch
16 by 16 grid
generates 256 gray levels



1/150th inch
8 by 8 grid
generates 64 gray levels

- Advanced Technique -

There is a trend in commercial printing towards requesting higher line screen frequencies. Designers often assume that a higher line screen frequency must generate better quality. This is not at all the case.

Compare the two examples on the left. The top example shows a 150 line screen cell while the bottom example illustrates four 300 line screen cells. The smaller cells have only 8 dots across per cell instead of 16 dots across. Although the number of pixels per cell is divided in half, the overall effect is that each cell has only one-fourth the total quality. In this example, there are 64 levels of gray instead of 256 levels. **This loss of tonality is far more severe than the gains by using a finer screen.**

Other problems should also be taken into account. Dots smaller than 1/150th of an inch are not visible to the naked eye. As such only slight gains exist in smaller dots. Most imagesetters can only offer screens of 200 lines per inch or lower with the needed 256 levels of gray. Also, as screens get more fine, adjusting for dot gain becomes more difficult.

Avoid line screens higher than 200 lpi to maintain professional results when printing with sheetfed and web offset printing (SWOP). When working on newspaper projects, avoid line screens greater than 85.