AMERICAN MATHEMATICAL SOCIETY
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Graphics Guidelines

3 Steps to Ensure That Your Graphics Will Print and Display Properly

1. **Identify the Type of Graphic (Raster or Vector)**

   It is important to know if you are working with a raster or vector graphic in order to determine the suitability for print.

   - A **raster** graphic is an array of pixels of various colors, which together form an image. These images typically come from digital cameras, Adobe Photoshop, or "Paint" programs. A paint program allows the user to draw or paint bitmapped images on a computer. Examples include: KolourPaint, XPaint, Deluxe Paint, MacPaint, and Microsoft Paint.
   - A **vector** graphic is created using vector illustration programs. These programs use mathematical equations and geometric primitives (points, lines, and shapes) to create clean art that can be scaled infinitely without any loss of quality. Examples include: Adobe Illustrator, Inkscape, Mathematica, and Matlab.

2. **Confirm the Graphic Meets the Appropriate Specifications for Its Type (a, b, or c)**

   High resolution image files are needed in order to ensure professional quality printing. *Notices* graphics are typically formatted in 2 sizes: 1 column (small) and 2 column (large) width. See specifications below.

   Raster (Photographic Images)
   - 300 pixels per inch required
   - (small) 1 column width | printed at 3-7/16 inches wide | Original: at least 2062 pixels wide
   - (large) 2 column width | printed at 7-1/8 inches wide | Original: at least 4276 pixels wide

   Raster (Line Art Images)
   - 600 pixels per inch required
   - (small) 1 column width | printed at 3-7/16 inches wide | Original: at least 1031 pixels wide
   - (large) 2 column width | printed at 7-1/8 inches wide | Original: at least 2138 pixels wide

   TIP: Here's a quick way to find out if your image meets the requirements listed above.
   Open a web browser and click on the File tab. Click "Open File" and browse to find the file you would like to open. Once the image is open, right click on that image.
   Safari: Click "Open Image in New Tab." Dimensions appear in header tab, to the right of the file name.
   Firefox: Click "View Image Info." Dimensions appear in a popup dialog box.

   Vector (Line Art Images)
   Resolution and quality will be high. The most common problem with vector graphics is that the line weights are too thin to print. See step #3.

3. **Be Sure That the Details of Your Graphic are in Order**

   Font size and line weights: Be sure your font size and line weights are legible and strong. The minimum printable font size is 6pt. The minimum line width is 0.5.

   Fonts: Fonts should be embedded in figures rather than superimposed on figures using commands in TeX.

   File Format: Most standard file formats can be used, including JPEG, TIFF, EPS, PNG, GIF, and PDF.

For a detailed guide to creating graphics for use in books and journals, go to:
https://www.ams.org/publications/authors/creating-graphics.pdf